P32
Cal 31

Digitized by the Internet Archive
in 2020 with funding from
Wellcome Library

https://archive.org/details/s2400id1378639

1145

THE

DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

EDITED BY

JOHN WILLIAM MOORE, B.A., M.D., M.Ch., Univ. Dubl.;

FELLOW OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND;
PHYSICIAN TO THE MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY;
EX-SCHOLAR OF TRINITY COLLEGE, DUBLIN.

VOL. LXXXIV.

JULY TO DECEMBER, 1887.

DUBLIN:
FANNIN AND COMPANY, GRAFTON-STREET.
LONDON: LONGMANS & CO.; SIMPKIN, MARSHALL & CO.
EDINBURGH: MACLACHLAN AND STEWART.
PARIS: HACHETTE & CO.

1887.

DUBLIN: PRINTED BY JOHN FALCONER, 53 UPPER SACKVILLE-STREET.

WELLCOME INSTITUTE LIBRARY
Coll. welMOmec
Call No. Ser W1 /0121

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CLXXXVII.—JULY 1, 1887.

PART I.—ORIGINAL COMMUNICATIONS.

PAGE

ART. I.—The Treatment of Abortion. By JOHN W. BYERS, M.A., M.D.; Physician to the Hospital for Sick Children, and Physician for Diseases of Women to the Royal Hospital, Belfast; Fellow of the Obstetrical Society of London, and of the British Gynæcological Society, - - - - - - - - - 1

ART. II.—A Case of Pityriasis Rubra. By WALLACE BEATTY, M.B.; Assistant Physician, Adelaide Hospital; Medical Officer, Throat and Ear Hospital, - - - - - - 8

ART. III.—Brachial Monoplegia complicating a Case of Enteric Fever. By Robert S. ARCHER, B.A., M.B., M.Ch., Trin. Coll. Dubl.; late Physician, Netherfield Fever Hospital, Liverpool, - - - 13

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. Recent Works on Materia Medica, Pharmacy, and Therapeutics:—
1. The Practice of Pharmacy: intended as a Hand-book for Pharmacists and Physicians, and a Text-book for Students. By JOSEPH P. REMINGTON, Ph.G.; Professor of Theory and Practice of Pharmacy, and Director of the Pharmaceutical Laboratory in the Philadelphia College of Pharmacy. 2. A Text-book of Pharmacology, Therapeutics, and Materia Medica. By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S.; Fellow of the Royal College of Physicians, &c. Adapted to the United States Pharmacopœia by FRANCIS H. WILLIAMS, M.D., Boston, Mass. Third Edition. 3. Griffith's Materia Medica and Pharmacy. Third Edition. Edited, and in part written, by ALFRED S. GUBB, L.R.C.P., &c., - - 16

2. A Junior Course of Practical Zoology. By A. MILNES MARSHALL, M.D., D.Sc., M.A., F.R.S.; Professor in the Victoria University; Beyer Professor of Zoology in Owens College. Assisted by C. HERBERT HURST, Demonstrator and Assistant Lecturer in Zoology Owens College, - - - - - - - 21

PAGE

3. Manual of Bacteriology. By EDGAR M. CROOKSHANK, M.B. (Lond), F.R.M.S.; Demonstrator of Physiology, King's College, London. Second Edition, revised and considerably enlarged, - - 23
4. On Overwork and Premature Mental Decay: its Treatment. By C. H. F. ROUTH, M.D. Fourth Edition, - - - - 24
5. St. Thomas's Hospital Reports. New Series. Vols. XIV. and XV., 25
6. Diseases and their Commencement: Lectures to Trained Nurses, delivered at the West London Hospital. By DONALD W. CHARLES HOOD, M.D., Cantab., Physician to the Hospital, - - - 26
7. Anatomy: Descriptive and Surgical. By HENRY GRAY, F.R.S. Eleventh Edition. Edited by T. PICKERING PICK, - - 27
8. Photography of Bacteria. By EDGAR M. CROOKSHANK, - - 31

PART III.—HALF-YEARLY REPORTS.

REPORT ON OPHTHALMIC SURGERY. By ARTHUR H. BENSON, M.A., F.R.C.S.I.; Ophthalmic and Aural Surgeon to the City of Dublin Hospital; Assistant Surgeon to St. Mark's Ophthalmic Hospital; Examiner in Ophthalmic Surgery to the Royal College of Surgeons:—

The Eyes of Deaf Mutes, - - - - - - 32
Transplantation of Enucleated Eyes, - - - - 33
The Interdependence of Acuteness of Vision and the Intensity of Illumination, - - - - - - - 33
The Treatment of Myopia, - - - - - 34
Strabismus, - - - - - - - 34
Cocaïn, - - - - - - - - 35
Glaucoma, - - - - - - - 36
Exenteration, - - - - - - - 36
Cataract, - - - - - - - - 37
Hemianopsia, - - - - - - - 38
Cysticercus, - - - - - - - 38

PART IV.—MEDICAL MISCELLANY.

ACADEMY OF MEDICINE IN IRELAND:—

SURGICAL SECTION.

Resection of the Pylorus. By MR. M'ARDLE, - - - 40
Œsophagotomy to Remove a Foreign Body. By MR. BARTON, - 42
Secondary Suture of Ulnar and Median Nerves. By MR. J. H. SCOTT, 44
Excision of the Knee-joint. By MR. W. THORNLEY STOKER, - 45

MEDICAL SECTION.

An Outbreak of Diphtheria—Two Cases of Purpura. By DR. MOUILLOT, - - - - - - - 48
Notes on Cases of Insanity. By MR. JOHN MOLONY, - - 51
Prevention and Treatment of Disease. By DR. C. F. KNIGHT, - 52
Latent Typhoid Fever Fatal through Cardiac Thrombosis. By DR. A. MONTGOMERY, - - - - - - 54

PAGE

OBSTETRICAL SECTION.

Exhibition of Specimens. By Drs. Mason and Macan, - - 56
Double Vaginal Orifice. By Mr. William Frazer, - - 56
Dystocia caused by Hydrocephalus and Pelvic Tumour. By Dr. Purefoy, - - - - - - - 57
Vesicular Degeneration of the Chorion. By Dr. Hayes, - 58

PATHOLOGICAL SECTION.

Specimens of Malignant Disease of the Stomach, Pancreas, Liver, Kidney, &c. By Dr. Walter G. Smith, - - - 60
Fibro-Sarcoma of the Orbit. By Mr. Swanzy, - - - 61
Sarcoma. By Mr. M'Ardle, - - - - - 62
Trephining for Epilepsy. By Mr. Wheeler, - - - 63

Transactions of the Ulster Medical Society:—

The Treatment of Phthisis. By Dr. Wales, - - - 65
The Home Treatment of Consumption. By Dr. Esler, - - 66
Successful Ovariotomy at the Ulster Hospital for Women and Children, Belfast. By Dr. Esler, - - - - 69

Sanitary and Meteorological Notes. Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F.R. Met. Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

Vital Statistics for Four Weeks ending Saturday, May 21, 1887, 70
Meteorology—Abstract of Observations made at Dublin for Month of May, 1887, - - - - - - - 75

Periscope:—

A Case of Enucleation with Replacement of the Human Globe by that of a Rabbit, - - - - - - 39
Waking Numbness, - - - - - - 64
The Rhythm and Innervation of the Heart of the Sea-Turtle, - 77
The Causation of the Heart-beat, - - - - - 78
The Treatment of Colds, - - - - - - 79
Antipyrin as an Anodyne, - - - - - - 80
Corrosive Sublimate Poisoning, - - - - - 80

NOTICES TO CORRESPONDENTS.

In future no papers will be inserted as "Original Communications" except on the distinct understanding that they are sent for publication to this Journal alone, and that only abstracts of them (with due acknowledgment) shall afterwards appear elsewhere.

Authors of "Original Communications" will please consider themselves bound in honour to a strict observance of this understanding.

Authors of Communications are requested to write the prescriptions in their paper in full, and in English.

Books and Periodicals published in Northern Europe and the German State, intended for our Journal, should be transmitted "For the Editor of the Dublin Journal of Medical Science, care of Messrs. TRÜBNER and Co., *London*," *through the following Houses, viz.:*—Messrs. SCHNEIDER and Co., *Berlin;* Messrs. BRAUMULLER and SON, *Vienna;* M. F. A. BROCKHAUS, *Leipzig; and also their Correspondents* in the principal Towns on the Continent. Our Correspondents in France, Belgium, Italy, and Spain, are requested to communicate with us through Messrs. HACHETTE and Co., 77, *Boulevard St. Germain, Paris.*

AMERICAN Books and Journals often come to hand with such an amount of Charges on them, that we cannot release them. It is requested that *all* communications from the United States shall be forwarded to MR. JOHN WILEY, *New York;* or MR. HENRY C. LEA, *Philadelphia*, directed to us, to the care of Messrs. TRÜBNER and Co., *London.*

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CLXXXVIII.—AUGUST 1, 1887.

PART I.—ORIGINAL COMMUNICATIONS.

PAGE

ART. IV.—Contrast between Laparo-Colotomy and Lumbar Colotomy. By CHARLES B. BALL, M.D., F.R.C.S.I.; Surgeon to Sir P. Dun's Hospital; University Examiner in Surgery, and Examiner in Surgery, Royal College of Surgeons in Ireland, - - - 81

ART. V.—Clinical Illustrations of Perforation of the Intestines in Enteric Fever. By ROBERT S. ARCHER, B.A., M.D., M.Ch., Trin. Coll. Dubl.; late Physician, Netherfield Fever Hospital, Liverpool, - 90

ART. VI.—Death from Starvation. By ALEXANDER PORTER, M.D., F.R.C.S.I., M.R.I.A.; Brigade-Surgeon, Madras Army; Principal and Professor of Medicine, Medical College, Madras, and Fellow of Madras University, - - - - - - 106

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. The Climatic Treatment of Consumption: a Contribution to Medical Climatology. By JAMES ALEX. LINDSAY, M.A., M.D.; Physician to the Consumptive Hospital, Thronemount, Belfast; Assistant Physician to the Belfast Royal Hospital; Consulting Physician to the Ulster Hospital, Belfast. - - - - - 113

2. Recent Works on Health-Resorts:—1. Carlsbad: its Thermal Springs and how to use them. By J. KRAUS, M.D., Resident Physician in Carlsbad. Third Edition, revised and enlarged. 2. The Mineral Waters of Vichy and the Diseases in which they are indicated, followed by a Sketch of some of the Principal Excursions in the Environs. By DR. C. E. CORMACK, Consulting Physician at Vichy, 120

3. The Healing Art; or Chapters upon Medicine, Diseases, Remedies, and Physicians, Historical, Biographical, and Descriptive, - 127

4. Pilocereus Senilis and other Papers. By WALTER MOXON, M.D., F.R.C.P.; Physician to and Lecturer on Medicine at Guy's Hospital, - - - - - - - - 129

PAGE

5. Anatomy: Descriptive and Surgical. By Henry Gray, F.R.S. Eleventh Edition. Edited by T. Pickering Pick (Second Notice), 130

6. The Officinal Materia Medica. By Frederick T. Roberts, M.D. Second Edition, - - - - - - - 132

7. The Surgeon's Pocket Book. By the late Surgeon-Major J. H. Porter. Third Edition. Revised and Edited by Brigade-Surgeon C. H. Y. Godwin, Assistant Professor of Military Surgery, Army Medical School, Netley, - - - - - 133

8. Lewis's Pocket Case-Book for Practitioners and Students. Designed by A. F. Brand, M.D., - - - - - - 134

9. Practitioner's Handbook of Diseases of the Ear and Naso-pharynx. Third Edition of the "Aural Surgery." By H. Macnaughton Jones, M.D., M.Ch., M.A.O. (Hon.), - - - - 134

10. On the Diagnosis of Diseases of the Brain, Spinal Cord, and Nerves. By C. W. Suckling, M.D., - - - - - 136

11. Abdominal Surgery. By J. Greig Smith, M.A., F.R.S.E.; Surgeon to the Bristol Infirmary, - - - - - - 136

Part III.—HALF-YEARLY REPORTS.

Report on Ophthalmic Surgery. By Arthur H. Benson, M.A., F.R.C.S.I.; Ophthalmic and Aural Surgeon to the City of Dublin Hospital; Assistant Surgeon to St. Mark's Ophthalmic Hospital; Examiner in Ophthalmic Surgery to the Royal College of Surgeons (*concluded*):—

Anatomy, - - - - - - - - 138
Visual Troubles in Exophthalmic Goitre, - - - - 142
On Chromophobia, or Dread of Colours, - - - - 143
On the Relation of Uterine Disease to Asthenopia and other Affections of the Eye, - - - - - - 144
On Means for the Prevention of Myopia, - - - - 145

Part IV.—MEDICAL MISCELLANY.

Academy of Medicine in Ireland:—

OBSTETRICAL SECTION.

Exhibitions. By Drs. Alfred Smith, Arthur V. Macan, and T. More Madden, - - - - - - 147
The Reparative Treatment of some of the Graver Forms of Vesico-Vaginal and Vesico-Uterine Fistulæ. By Dr. T. More Madden, 148
Exhibitions. By Drs. A. V. Macan, R. H. Fleming, and Alfred Smith, - - - - - - - - 150
Abscess of the Uterus, opening through the Umbilicus. By Dr. J. R. Kirkpatrick, - - - - - - 152

PAGE

PATHOLOGICAL SECTION.

Report of Reference Committee on the Lower Limb of a Fœtus, - 155
Fibroma Corneæ and Melanotic Tumour of the Conjunctiva. By Mr. Arthur H. Benson, - - - - - - 156
Fatty Substitution of the Erector Spinæ in the Pig. By Mr. J. Alfred Scott, - - - - - - - - 157
Perforation of the Stomach. By Drs. Boyd, Smyly, and Beatty, 157

MEDICAL SECTION.

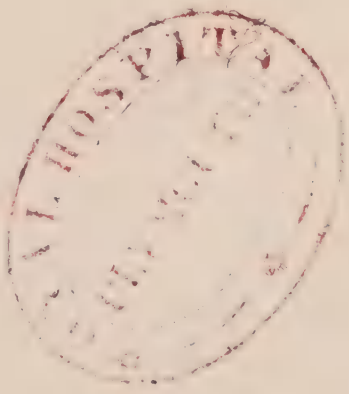
Chronic Interstitial Nephritis. By Mr. C. H. Robinson, - 160
Ideal Paralysis; Neurosis of the Viscera. By Mr. W. Bernard, 160
Calculous Pyelitis, followed by Albuminoid Disease. By Dr. J. W. Moore, - - - - - - - - 162

Sanitary and Meteorological Notes. Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F.R.Met. Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

Vital Statistics for Four Weeks ending Saturday, June 18, 1887, 163
Meteorology—Abstract of Observations made at Dublin for Month of June, 1887, - - - - - - - 168

Periscope:—

Cæsarean Section performed by the Patient, - - - 146
The Chemical Pathology of Lead-Poisoning, - - - 162
Researches into the Pathology of Dengue, - - - 170
The Murder at the Rue Montaigne, Paris, - - - 171
A Valuable Metric Table, - - - - - - 172
Afebrile Pneumonia, - - - - - - - 173
An Experimental Research upon Rabies, - - - - 174
Curative Potency of Prolonged Sleep, - - - - 175
The Means of Topographical Diagnosis of Focal Disease affecting the so-called Motor Region of the Cerebral Cortex, - - 175
Rupture of the Patellar Tendon of Both Sides, - - - 176



Geddes' Fluid Extract of Hemlock Bark.

Boston, Mass., U.S.A., March 22nd, 1886.

GENTLEMEN,

Geddes' Extract of Hemlock Bark is still winning laurels for you. I have recently effected cures by its application, as follows:—One case of bleeding piles of long standing; one case of Leucorrhœa, treated with other remedies for three years, and continued to grow worse; one case of bed sores, on an old lady who was obliged to lay on the sores continually—they were completely healed in less than one week; one case of a bad leg, which had discharged offensive matter for years, completely healed in twenty-seven days from the first application. Your discovery of the Extract of Hemlock is the crowning triumph of the nineteenth century; the cures it effects are not only marvellous but truly wonderful.

Very truly yours,

WALTER E. ESTABROOK, A.M., M.D.

THE GEDDES MANUFACTURING CO.,

COLLEGE CHAMBERS, 249 HIGH HOLBORN, LONDON, W.C.

DEPOT FOR IRELAND:—R. SIMPSON & CO., 16 Henry-street.

Medical Gentlemen who are unacquainted with the nature of our Extract, and wish to give it a trial, will, on application to our London Office *only*, be furnished with one regular-sized bottle free of cost, by parcels post (wherever the parcels post system exists).

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CLXXXIX.—SEPTEMBER 1, 1887.

PART I.—ORIGINAL COMMUNICATIONS.

PAGE

ART. VII.—Our First Campaign in Egypt. By BRIGADE-SURGEON ALBERT A. GORE, M.D., F.R.C.S.I.; Medical Staff, Army of Occupation, - - - - - - - - 177

ART. VIII.—The Radical Cure of Hydrocele. By J. S. M'ARDLE, F.R.C.S.I.; Lecturer on Surgery, St. Vincent's Hospital, - - 190

ART. IX.—Idiosyncrasy. By GEORGE M. FOY, F.R.C.S.I.; Surgeon to the Whitworth Hospital, Drumcondra, - - - - - 197

ART. X.—Expectancy as an Element in the Exaggeration of Railway Injuries, Real or Imaginary. By H. C. TWEEDY, M.D. Dubl.; F.R.C.S.I.; Physician to, and formerly Lecturer on Medical Jurisprudence in, Steevens' Hospital, Dublin, - - - - 202

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. Sphygmography and Cardiography, Physiological and Clinical. By ALONZO T. KEYT, M.D. Edited by ASA B. ISHAM, M.D., and M. H. KEYT, M.D., - - - - - - - 218

2. British Medical Association. Fifty-fifth Annual Meeting, Dublin, August, 1887. Programme of Proceedings, with Guide to the City, and Excursions. By THOMAS STUART, - - - 225

3. The Eighth Annual Report of the Sabbatsbergs Hospital, Stockholm, for the Year 1886. Compiled by DR. F. W. WARFVINGE, Director of the Hospital, and Chief Physician to the Medical Department, - - - - - - - - 226

4. Hay Fever and Paroxysmal Sneezing; their Etiology and Treatment, with an Appendix on Rose Cold. By MORELL MACKENZIE, M.D. Lond.; Consulting Physician to the Throat Hospital, and lately Physician to the London Hospital. Fourth Edition, - - 227

5. Anatomy: Descriptive and Surgical. By HENRY GRAY, F.R.S. Eleventh Edition. Edited by T. PICKERING PICK (Third and Concluding Notice), - - - - - - - 228

PAGE

6. Elementary Microscopical Technology: a Manual for Students of Microscopy. In Three Parts. Part I. The Technical History of a Slide, from the Crude Materials to the Finished Mount. By Frank L. James, Ph.D., M.A., - - - - - 231
7. A Course of Elementary Practical Histology. By Wm. Fearnley, 231

Part III.—HALF-YEARLY REPORTS.

Report on Nervous and Mental Disease. By Ringrose Atkins, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford:—

1. Insanity in General, - - - - - - 233
2. Neuro-Anatomy and Physiology, - - - - 239

Part IV.—MEDICAL MISCELLANY.

Academy of Medicine in Ireland:—

PATHOLOGICAL SECTION.

Malformation of the Shoulder-joint. By Dr. E. H. Bennett, - 249
Capillary Transudation. By Mr. Story, - - - 251
Fracture of the Skull. By Dr. Heuston, - - - 255

Sanitary and Meteorological Notes. Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F.R.Met.Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

Vital Statistics for Four Weeks ending Saturday, July 16, 1887, 256
Meteorology—Abstract of Observations made at Dublin for Month of July, 1887, - - - - - - - 261

Periscope:—

British Medical Service, - - - - - - 217
Hydrobromate of Cocain, - - - - - - 248
The Employment of Unqualified Assistants defined as "Infamous Conduct" under the Medical Act, - - - - 263
Arbutin, - - - - - - - - 263
Salicylates and Alkalies in Acute Rheumatism, - - - 263
Packing-house Wounds, - - - - - - 264
Conium, - - - - - - - - 264
Carbolic Acid Poisoning of an Infant, - - - - 264

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CXC.—OCTOBER 1, 1887.

PART I.—ORIGINAL COMMUNICATIONS.

PAGE

ART. XI.—A Holiday at Mont Dore. By WILLIAM THOMSON, M.A., F.R.C.S.; Surgeon to the Richmond Hospital; General Secretary to the Academy of Medicine in Ireland, - - - - 265

ART. XII.—Abortion: its Ætiology and Treatment. By ALEXANDER DEMPSEY, M.D., Q.U.I.; L.R.C.S.I.; Physician and Gynæcologist to the Mater Infirmorum Hospital, Belfast; Vice-President, Ulster Medical Society, &c., - - - - - - 274

ART. XIII.—The Evil Effects of Imperfect Sanitary Laws. By E. MACDOWEL COSGRAVE, M.D., F.K.Q.C.P., - - - 281

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. Transactions of the Academy of Medicine in Ireland. Vol. IV. Edited by WILLIAM THOMSON, M.A., F.R.C.S., General Secretary, 285

2. Recent Works on Diet and Digestion:—1. Indigestion and Biliousness. By J. MILNER FOTHERGILL, M.D., Edin.; Physician to the City of London Hospital for Diseases of the Chest, &c. Second Edition. Revised and enlarged. 2. A Manual of Dietetics. By J. MILNER FOTHERGILL, M.D., Edin., - - - - 287

3. Beiträge zur pathologischen Anatomie und Physiologie. Herausgegeben von DR. ERNST ZIEGLER und DR. C. NAUWERCK. Zweiter Band. Erstes Heft, - - - - - - 291

4. Anæmia. By FREDERICK P. HENRY, M.D., - - - 296

5. The Transactions of the Medico-Chirurgical Society of Edinburgh. Vol. V. New Series. Sessions 1885–86, - - - - 297

6. The Physiological Effects of Artificial Sleep, with some Notes on the Treatment by Suggestion. By DR. MATHIAS ROTH, - - 300

PAGE

7. Nervous Diseases and their Diagnosis: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with especial reference to the Recognition of their Causes. By H. C. Wood, M.D., LL.D., - - - - - - - 300

8. Year-Book of the Scientific and Learned Societies of Great Britain and Ireland; comprising Lists of the Papers read during 1886 before Societies engaged in Fourteen Departments of Research, with the Names of the Authors. Compiled from Official Sources. Fourth Annual Issue, - - - - - - 301

9. Vaso-Renal Change versus Bright's Disease. By J. Milner Fothergill, M.D., &c., - - - - - - 302

PART III.—HALF-YEARLY REPORTS.

Report on Nervous and Mental Disease. By Ringrose Atkins, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford (*concluded*):—

3. Neuro-Pathology and Pathological Anatomy, - - - 304
4. Neuro-Therapeutics, - - - - - - 312

PART IV.—MEDICAL MISCELLANY.

Academy of Medicine in Ireland:—

SURGICAL SECTION.

Living Specimens. Exhibited by Sir William Stokes, Messrs. Wheeler, P. J. Hayes, and F. A. Nixon, - - - 318
Specimens by Card. Exhibited by Sir William Stokes, Messrs. Hamilton, Franks, and Nixon, - - - - 318
Malignant Disease of the Tonsil. By Mr. Henry Gray Croly, - 319
Excision of the Wrist-joint. By Mr. Wheeler, - - 321

SUB-SECTION OF ANATOMY AND PHYSIOLOGY.

Dissection of the Plantar Arch from the Dorsal Aspect of the Foot. By Dr. Brooks, - - - - - - 323
Varieties in the Mode of Origin of the Phrenic Nerve, with some Notes on Nerve-variations in the Superior Extremity. By Dr. Brooks, - - - - - - 323
Anthropoid Apes. By Dr. Brooks, - - - - 324

SUB-SECTION OF STATE MEDICINE.

Distribution of Phthisis and Diseases of the Respiratory Organs in Ireland. By Dr. T. W. Grimshaw, - - - - 325

MEDICAL SECTION.

Exhibition. By Dr. Knight, - - - - - 329
Some Notes on the Mineral Springs of Auvergne. By Mr. M. A. Boyd, - - - - - - - - 329
Pityriasis Rubra. By Dr. Wallace Beatty, - - - 331

PAGE

SANITARY AND METEOROLOGICAL NOTES. Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F.R.Met.Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

Vital Statistics for Eight Weeks ending Saturday, September 10, 1887, - - - - - - - - 334

Meteorology—Abstract of Observations made at Dublin for Month of August, 1887, - - - - - - 344

PERISCOPE:—

Carbolic Acid Poisoning, - - - - - - 303

Elephantiasis induced by Posture, - - - - 347

Sudden Death from the Introduction of an Aspirator Needle, - 348

A Third Contribution to the Study of Localised Cerebral Lesions, 349

Obturator Hernia, - - - - - - 350

Cardiac Malformation, - - - - - - 350

Carica Papaya, - - - - - - - 351

Tetanus in a Boy aged Twelve, - - - - - 352

Accidental Vaccinia resulting in Death, - - - - 352

Geddes' Fluid Extract of Hemlock Bark.

(ABIES CANADENSIS.)

BOSTON, MASS., U.S.A.,
Dec. 11, 1883.

THE GEDDES MANUFACTURING CO.

GENTLEMEN,—I am using Geddes' Fluid Extract of Hemlock Bark in various cases of leucorrhœa, gonorrhœa, tonsillitis, &c., with happy results. One case of leucorrhœa which *had always resisted every other treatment* has yielded to this, and is almost well.

Respectfully,

CHARLES K. CUTTER, M.A., M.D.

CHARLESTOWN DISTRICT,
200 Main-street.

EAST WEYMOUTH, *September*, 1885.

THE GEDDES MANUFACTURING CO.

DEAR SIRS,—I used the bottle of Extract of Hemlock you sent me in a case of piles, accompanied with prolapsus of the rectum in an old man upon whom I had exhausted all the remedies known, both internal and external, with complete success, affording the greatest relief he had been able to obtain.

G. W. FAY, M.D.

THE GEDDES MANUFACTURING CO.,

COLLEGE CHAMBERS, 249 HIGH HOLBORN, LONDON, W.C.

DUBLIN DEPOT:—R. SIMPSON & CO., 16 HENRY-STREET.

Medical Gentlemen who are unacquainted with the nature of our Extract, and wish to give it a trial, will, on application to our London Office *only*, be furnished with one regular-sized bottle free of cost, by parcels post (wherever the parcels post system exists).

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CXCI.—NOVEMBER 1, 1887.

PART I.—ORIGINAL COMMUNICATIONS.

PAGE

ART. XIV.—Work done in Surgery by its Professors in the Royal College of Surgeons in Ireland. By SIR WILLIAM STOKES, M.D., Ch.M., Univ. Dubl.; F.R.C.S.; Professor of Surgery and ex-President, Royal College of Surgeons; Senior Surgeon to the Richmond Surgical Hospital; formerly President of the Pathological Society of Ireland, - - - - - 353

ART. XV.—A Visit to the Claret Country.—Cheap Wine for the People. By SIR CHARLES CAMERON, ex-President and Professor of Hygiene and Chemistry, Royal College of Surgeons, - - 367

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. Recent Works on Practice of Medicine:—1. A Text-book for Students and Practitioners. By DR. ADOLF STRÜMPELL, Professor and Director of the Medical Clinique at Erlangen. Translated, by permission, from the Second and Third German Editions by HERMAN F. VICKERY, A.B., M.D., and PHILIP COOMBS KNAPP, A.M., M.D. With Editorial Notes by FREDERICK C. SHATTUCK, A.M., M.D. 2. A Treatise on the Principles and Practice of Medicine. By AUSTIN FLINT, M.D., LL.D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, &c. Sixth Edition, revised and largely re-written by the Author, assisted by WILLIAM H. WELCH, M.D., Professor of Physiology in the Bellevue Hospital Medical College, New York. 3. A Treatise on the Theory and Practice of Medicine. By JOHN SYER BRISTOWE, M.D. Lond., LL.D. Edin., F.R.S.; Fellow and Censor of the Royal College of Physicians; Senior Physician to, and Lecturer on Medicine at, St. Thomas's Hospital, &c., - - - - - - 374

PAGE

2. The Rectum and Anus: their Diseases and Treatment. By CHARLES B. BALL, M.Ch., Univ. Dubl.; F.R.C.S.I.; Surgeon to Sir Patrick Dun's Hospital; University Examiner in Surgery, &c., - - 390

3. Works on Materia Medica:—1. A Text-book of Organic Materia Medica. By ROBERT BENTLEY, M.R.C.S., F.L.S. 2. Thomson's Conspectus: adapted to the British Pharmacopœia of 1885. Edited by NESTOR TIRARD, M.D., Lond. 3. The Prescriber: a Dictionary of the New Therapeutics. By J. H. CLARKE, M.D. Edin., Physician to the London Homœopathic Hospital, - - - 395

4. An Introduction to the Study of Embryology. By ALFRED C. HADDON, M.A., M.R.I.A., Professor of Zoology in the Royal College of Science, Dublin. Illustrated, - - - - 396

5. A Practical Treatise on Diseases of the Eye. By DR. ÉDOUARD MEYER (Paris). Translated from the Third French Edition, with additions as contained in the Fourth German Edition, by FREELAND FERGUS, M.B., Ophthalmic Surgeon, Glasgow Royal Infirmary, - - - - - - - 398

6. A Manual on Urine Testing. Compiled for the Use of Matrons, Nurses, and Probationers. By K. M. Heanley, - - - 400

7. Dermatitis Venenata: an Account of the Action of External Irritants upon the Skin. By J. C. WHITE, M.D., Professor of Dermatology, Harvard University, - - - - 400

8. The Commonwealth: a Series of Essays on Health and Felicity for Every-day Readers. By BENJAMIN WARD RICHARDSON, M.D., F.R.S., Fellow of the Royal College of Physicians, and Honorary Physician to the Royal Literary Fund, - - - - 401

9. SOME PERIODICALS:—1. The Australasian Medical Gazette. Edited by the Hon. JOHN MILDRED CREED, M.L.C., L.R.C.P., M.R.C.S.E., &c. Nos. 59–71. 2. Transactions of the South Indian Branch of the British Medical Association. Vol. II. No. 2. 3. The China Medical Missionary Journal. Vol. I. No. 1. 4. Revue Internationale de l'Enseignement publiée par la Société de l'Enseignement supérieur. 5. Spitalul, Revista Medicala. 6. The Polyclinic. Vol. V. Nos. 2, 3. 7. Transactions of the Pathological Society of Philadelphia. Vol. XII. Containing the Report of the Proceedings from September, 1883, to July, 1885. Edited by W. E. HUGHES, M.D. 8. Revista Pharmaceutica do Instituto Pharmaceutico do Rio de Janeiro. Nos. 7-9. 9. Boletim Geral de Medicina e Cirurgia. Nos. 1, 2, - - 402

10. Home Education; or, Irish *versus* English Grammar Schools for Irish Boys. By MAURICE C. HIME, M.A., LL.D., Barrister-at-Law; Head Master of Foyle College, Londonderry; Author of "Morality," &c., &c., &c., - - - - - - - 407

PAGE

Part III.—HALF-YEARLY REPORTS.

Report on Surgery. By William Thomson, M.A., F.R.C.S.; Surgeon to the Richmond Hospital, Dublin; General Secretary to the Royal Academy of Medicine in Ireland:—

Preliminary Tracheotomy as an Aid to Certain Operations, - 409
New Method of Amputation at the Ankle-Joint, - - - 410
The Treatment of Enlarged Prostate, - - - - 410
Electrolysis in the Treatment of Stricture of the Urethra, - - 413
A New Method of Exposing the Kidney, - - - - 414

Part IV.—MEDICAL MISCELLANY.

Royal Academy of Medicine in Ireland:—

SURGICAL SECTION.

(1) Two Cases of Lumbar Colotomy, in which there were abnormal conditions; (2) A Contrast between Laparo- and Lumbar-Colotomy. By Mr. Thomson and Mr. Ball, - - 416

OBSTETRICAL SECTION.

Exhibitions of Specimens. By Drs. Alfred Smith and A. V. Macan, 421
Report of the Rotunda Hospital. By Mr. John L. Lane, - 422

Sanitary and Meteorological Notes. Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F.R. Met. Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

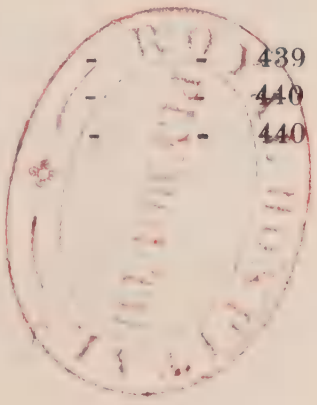
Vital Statistics for Four Weeks ending Saturday, October 8, 1887, - - - - - - - - 429
Meteorology—Abstract of Observations made at Dublin for Month of September, 1887, - - - - - - 434

Periscope:—

The Dangers of Santonin, - - - - - 373
Congenital Absence of Ostium Vaginæ, - - - - 415
Salol, - - - - - - - - 428
A Contribution to the Pathology of the Cerebellum, - - 437
Mental Epilepsy, - - - - - - - 438
Calendula, - - - - - - - 438

New Preparations and Scientific Inventions:—

An "Anatomical" Bed Pan, - - - - - 439
Saccharin Tabloids, - - - - - - 440
Strophanthus, - - - - - - - 440



Geddes' Fluid Extract of Hemlock Bark.

(ABIES CANADENSIS.)

CHELSEA, LONDON, S.W.,
February 26, 1886.

GENTLEMEN,

It gives me much pleasure to state that having used the Extract of Hemlock Bark (Geddes') constantly in my practice for the past year, I have never found anything during my professional experience that equals it. I have applied it in Leucorrhœa, piles, and in one case of ulceration of the womb, with perfect success; also in one case of canker of the mouth, where it had eaten the gums so that the teeth were loose, it effected a perfect cure. I am now using it in a case of chronic catarrh with good results.

Most sincerely yours,

JAMES R. PERKINS, A.M., M.D.

THE GEDDES MANUFACTURING CO.,

COLLEGE CHAMBERS, 249 HIGH HOLBORN, LONDON, W.C.

DUBLIN DEPOT: — R. SIMPSON & CO., 16 HENRY-STREET.

Medical Gentlemen who are unacquainted with the nature of our Extract, and wish to give it a trial, will, on application to our London Office *only*, be furnished with one regular sized bottle free of cost, by parcels post (wherever the parcels post system exists).

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CXCII.—DECEMBER 1, 1887.

PART I.—ORIGINAL COMMUNICATIONS.

PAGE

ART. XVI.—An Address delivered in the Theatre of the Meath Hospital at the Opening of the Session 1887–88, November 7, 1887. By ARTHUR WYNNE FOOT, M.D., Univ. Dubl ; Senior Physician to the Meath Hospital; Vice-President of the King and Queen's College of Physicians in Ireland; Professor of the Practice of Medicine, Royal College of Surgeons in Ireland; Fellow of the Royal Academy of Medicine in Ireland; Diplomate in State Medicine, Trinity College, Dublin, &c., - - - - - 441

ART. XVII.—Tetanus an Infectious Disease. By CHARLES B. BALL, M.D., F.R.C.S.I,; Surgeon, Sir P. Dun's Hospital; University Examiner in Surgery; Examiner in Surgery, Royal College of Surgeons; President of the Section, - - - - - 457

ART. XVIII.—Trephining in Mastoid and Tympanic Disease. By J. DALLAS PRATT, F.R.C.S., M.A., M.D., B.Ch. of the Univ. of Dubl.; late Resident Surgeon, City of Dublin Hospital; Member of Court of Examiners, Royal College of Surgeons: late Civil Surgeon, Station Hospital, Beggars-bush; Fellow of the Royal Academy of Medicine in Ireland, - - - - - 467

ART. XIX.—Report of the Rotunda Hospital for the Three Years ending 3rd November, 1886. By JOHN LILLY LANE, B.A., L.K.Q.C.P. and L.R.C.S.; ex-Assistant Physician, - - 472

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. Recent Works on Practice of Medicine:—1. A Text-book for Students and Practitioners. By DR. ADOLF STRÜMPELL, Professor and Director of the Medical Clinique at Erlangen. Translated, by permission, from the second and third German Editions by HERMAN F. VICKERY, A.B., M.D., and PHILIP COOMBS KNAPP, A.M., M.D. With Editorial Notes by FREDERICK C. SHATTUCK, A.M., M.D.

PAGE

2. A Treatise on the Principles and Practice of Medicine, designed for the Use of Practitioners and Students of Medicine. By Austin Flint, M.D., LL.D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, &c. Sixth Edition, revised and largely re-written by the Author, assisted by William H. Welch, M.D., Professor of Pathology in John Hopkins University, Baltimore, and Austin Flint, M.D , LL.D , Professor of Physiology in the Bellevue Hospital Medical College, New York. 3. A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M.D. Lond., LL.D. Edin., F.R.S.; Fellow and Censor of the Royal College of Physicians; Senior Physician to, and Lecturer on Medicine at, St. Thomas's Hospital; formerly President of the Pathological Society and Society of Medical Officers of Health, - 489

2. Recent Works on Anatomy:—1. Anatomy, Descriptive and Topographical, in 625 Illustrations. By Carl Heitzmann, M.D. English Edition, by Louis Heitzmann, M.D. 2. The Dissector's Guide: being a Manual for the Use of Students. By D. J. Cunningham, M.D., Edin. and Dubl.; F.R.C.S.I.; F.R.S.E.; Professor of Anatomy and Chirurgery in the University of Dublin. Head and Neck, - - - - - - - - 497

3. The Therapeutics of Circulatory Derangements. By Prof. M. J. Oertel, M.D., of Munich [Vol. VII. of von Ziemssen's Handbook of General Therapeutics]. Translated by E. J. Edwards, M.D., - - - - - - - - - 500

4. Post Mortem Handbook; or, How to Conduct Post-mortem Examinations for Clinical and Medico-legal Purposes. By Thomas Harris, M.D. Lond., M.R.C.S.; Pathological Registrar to the Manchester Royal Infirmary; Assistant Lecturer and Demonstrator of Pathology in the Owens College; and Honorary Physician to the Manchester Hospital for Consumption and Diseases of the Throat, - - - - - - - - - 505

Part III.—HALF-YEARLY REPORTS.

Report on Materia Medica and Therapeutics. By Walter G. Smith, M.D.; Physician to Sir Patrick Dun's Hospital; King's Professor of Materia Medica, School of Physic, Trin. Coll. Dubl.:

1. Synthesis of Pilocarpin, - - - - - 506
2. Cocaïn, - - - - - - - 507
3. Drumin, - - - - - - - 509
4. Hyoscin, - - - - - - - 509
5. Absorption through the Skin, - - - - - 510
6. Lanolin, - - - - - - - 510
7. Iodol, - - - - - - - - 511
8. Aromatic Compounds, - - - - - - 511

Part IV.—MEDICAL MISCELLANY.

PAGE

Royal Academy of Medicine in Ireland:—

PATHOLOGICAL SECTION.

Opening Address. By Dr. C. B. Ball, - - - - 513
Hour-glass Contraction of the Stomach. By Dr. Finny, - 513
Case of Epispadias. By Dr. Lentaigne, - - - 515
Case of Phlegmasia Alba Dolens. By Professor Bennett, - 515

Transactions of the Ulster Medical Society:—

The President's Address. By Dr. Robert Esler, - - 518

Sanitary and Meteorological Notes. Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F.R.Met. Soc.; Diplomate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

Vital Statistics for Four Weeks ending Saturday, November 5, 1887, - - - - - - - - - 526
Meteorology—Abstract of Observations made at Dublin for Month of October, 1887, - - - - - - 531

Periscope:—

Temperature Sense, - - - - - - - 512
The Treatment of Burns, - - - - - - - 525
Spontaneous Cure of Cirsoid Aneurysm, - - - - 525
Pruritus Ani, - - - - - - - - 534
Fever: its Cause, Mechanism, and Rational Treatment, - - 535
Treatment of Syncope, - - - - - - - 536
Army Medical Department, - - - - - 536

Index to the Eighty-fourth Volume, - - - - 537

Geddes' Fluid Extract of Hemlock Bark.

(ABIES CANADENSIS.)

The Canadian Hemlock Tree (*Abies Canadensis*) must not be confounded with the shrub or poisonous Hemlock (*Conium Maculatum*). The former abound only throughout the Dominion of Canada and the Northern States of America. The tree itself is from 50 to 100 feet in height, and from 6 to 10 feet in girth at its base. Only the *inner* bark from the upland growth of this tree is used in the manufacture of Geddes' Extract of Hemlock Bark.

The process employed is that of repeated evaporation, wherein the most elaborate machinery, constructed upon the highest principles of modern science and mechanical skill, is employed.

Dr. GEORGE FOY, F.R.C.S., in writing to the *Medical Press and Circular*, published Wednesday, November 17th, 1886, says:—"... Though I am always an advocate for the pharmacian producing his own preparations as far as possible, I cannot but acknowledge that Geddes' Hemlock Bark Extract is the *perfection* of pharmacy, and only such as elaborate machinery and unremitting scientific care could produce. It is a pure Extract, being absolutely devoid of alcohol, and is of the consistence of treacle. It mixes readily with water in all proportions, and is an admirable astringent. . . ."

THE GEDDES MANUFACTURING CO.,

COLLEGE CHAMBERS, 249 HIGH HOLBORN, LONDON, W.C.

DUBLIN DEPOT:—R. SIMPSON & CO., 16 HENRY-STREET.

Medical Gentlemen who are unacquainted with the nature of our Extract, and wish to give it a trial, will, on application to our London Office *only*, be furnished with one regular sized bottle free of cost, by parcels post (wherever the parcels post system exists).

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

JULY 1, 1887.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*The Treatment of Abortion.*[a] By JOHN W. BYERS, M.A., M.D.; Physician to the Hospital for Sick Children, and Physician for Diseases of Women to the Royal Hospital, Belfast; Fellow of the Obstetrical Society of London, and of the British Gynæcological Society.

I THINK I need make no apology for bringing forward the question of the treatment of abortion. The great frequency with which abortions are met with—there being probably 1 to 8 or 10 full-term deliveries—the disastrous effect they frequently have on the health of those in whom they occur, as well as their direct action in the causation of pelvic disease—all these circumstances demand that we should have clear and definite ideas as to the treatment of such complications.

As is well known, the term abortion is applied by some, rather in a restricted sense, to expulsion of the ovum in the first two or three months of pregnancy, before the placenta is formed, while if such a condition occurs at any time between this period and the seventh month it is called a miscarriage; but on the present occasion I must be understood as using the terms abortion and miscarriage as synonymous, and as including all those cases in which pregnancy is brought to a termination before the child is viable—that is, about the end of the seventh month.

[a] Being an Introduction to a Discussion at the Ulster Medical Society on March 9, 1887.

In the present paper I propose to bring before your notice the following points:—

1st. The treatment of threatened abortion.

2nd. The treatment to be followed when all hope of the pregnancy being continued is gone.

3rd. The method of dealing with neglected or incomplete abortion.

4th, and finally. The question of the after-treatment and prophylaxis of abortion.

I wish, however, *in limine*, to direct your attention to some features in the development of the placenta, of which the greater number of midwifery text-books, with the exception of that of Dr. Galabin, take little or no notice, but which seem to have a very direct and practical bearing on the question we are to discuss. If we suppose a section to be made of the uterus with the placenta *in situ* after the twentieth week of pregnancy, there will be observed a number of spaces in the *decidua serotina* beneath the placenta, and it is through these openings that detachment occurs at the end of pregnancy. In the first two months, as Dr. Galabin tells us, the ovum is most frequently got rid of without rupture of the envelopes, and the whole of the chorion and rudimentary placenta comes away together. "In the middle months of pregnancy," he states, "after the placenta has been formed, but before the formation of that open meshwork which facilitates its separation from the uterine wall, the separation of the placenta is much more difficult." In abortions at this period the amniotic sac, owing to the pressure of the uterine contractions, yields near the cervix, the waters escape, and the fœtus is expelled and the small funis is easily snapped. Then the uterus, having got rid of a portion of its contents, retracts, the neck closes up, and the whole or a part of the placenta is likely to be retained unless it is removed by artificial means. The close connection between the placenta and the uterus is met with between the tenth or twelfth to the twentieth week, and this is just the period during which the practical obstetrician finds his greatest difficulties in dealing with abortion. After the fifth month the placenta comes away as at full term.

1st. *Threatened Abortion.*—If the hæmorrhage is not severe, if the os is not dilated, and there has been no escape of liquor amnii, we are bound to make an effort to save the ovum. What I rely on myself is absolute rest and some preparation of opium.

(*a*) The patient should keep on her back, avoid all movement, use the bed-pan (if possible), have a milk diet, and avoid every form of stimulant. By this means the circulation is kept thoroughly quiet.

(*b*) Twenty minims of Battley's solution given twice, at intervals of three hours, and then half this dose every five hours; or half a grain morphin suppository, is the form of opium I like best. In a word, the treatment is very much in threatened abortion like that which the physician employs in hæmoptysis. I have not tried the drug recommended in this condition by our American *confrères*—the liquid extract of viburnum prunefolium. They give it in drachm doses every three hours. I have little faith in cold, acetate of lead, or sulphuric acid in the treatment of threatened abortion.

2nd. When, however, from the continuance of the pains, the presence of great hæmorrhage, coupled with the dilatation of the os, we feel that there is no chance of saving the ovum, how are we to act? If the abortion occurs within the first couple of months, we should endeavour to do nothing by a too active interference, which would tend to rupture the ovum, so that if possible it may be got rid of unbroken. If the ovum is already in the vagina, or if it has so dilated the cervix that we can work the finger round it, we should take it away. Any part of the decidua attached to the interior of the uterus may be left alone, as it will come away in the discharges. Again, after the fifth month we act precisely as in an ordinary delivery. It is when an abortion occurs between the tenth or twelfth and the twentieth week that one has to deal with the greatest difficulties, for reasons which I have already stated. While I said in the early part of this paper that many pelvic ailments take their origin from an abortion, it must be clearly known to all that there are two immediate dangers to which every woman who is the subject of abortion is liable—hæmorrhage and septicæmia—and she is only secure against these risks when the uterus has been completely evacuated. Now, in certain cases, if seen early, the cervical canal is so patulous that we can introduce the forefinger, and bring away the whole or part of the placenta remaining, while in others, from the undilated condition of the cervix, this is impossible. In the latter class of cases we give ergot to intensify the uterine contractions, while we place a plug in the cervical canal. By these methods we hope to restrain hæmorrhage, to cause separation of the placenta, and to facilitate the introduction of the finger. I usually give two drachms of the

liquid extract of ergot at once, and a second drachm in three hours, although others (especially in the Edinburgh school) prefer to administer ergotin subcutaneously. I remember when a student the usual plan was to plug the vagina in such cases with cotton wadding soaked in glycerine, but now I plug the cervix as a more rational and scientific procedure. This is best done with a sponge or tupelo tent, but in the introduction of a tent, as well as in any other operative interference with the uterus, I am a thorough believer in antiseptic precautions. I have already expressed my views on antiseptic midwifery in another place during the present session.[a] In introducing a tent we first give a hot vaginal antiseptic douche, the hands having been previously washed and then placed for a time in a 1 in 2,000 perchloride of mercury solution. An antiseptic sponge-tent or one made of tupelo wood (covered with salicylic cream, 1 to 8 of glycerine) is then passed into the cervix, and retained in position with a piece of iodoform gauze. In six to eight hours the gauze and tent are removed, another antiseptic douche is given, and we proceed, if the cervical canal is dilated, to the complete evacuation of the uterine cavity. It is well to have the bladder and rectum empty. For exploring the interior and evacuating the contents of the aborting uterus there is no instrument equal to the finger, but undoubtedly in certain cases it is difficult to carry it up to the fundus of the uterus. If the patient happens to be a multipara with lax abdominal walls, by placing her on her left side, the pelvis being brought somewhat beyond the edge of the bed, while with one hand we press the uterus downwards from above, we can introduce one or two fingers of the other, so as to separate and bring away any portion of adhering placenta. In primiparæ I have met with considerable difficulties in certain cases from two causes:—

(*a*) Rigid abdominal walls.

(*b*) Small, undilated vagina.

In such cases the use of an anæsthetic gives great assistance, but latterly I have found the volsella a most useful instrument. By it we can draw the uterus down from below with one hand, while with the fingers of the other we explore its interior. In the following case the volsella gave great help:—

Case I.—Mrs. A., when three and a half months pregnant, slipped and fell, on alighting from a tramcar, and on reaching home found she was

[a] Introductory Address to the Students attending the Belfast Royal Hospital, at the opening of the Winter Session, 1886–87. Brit. Med. Journal. Nov. 13, 1886.

bleeding. She went to bed, and as pains set in and something came away, I was sent for in the night. On arrival I found a small fœtus had been expelled and a piece of placenta. On vaginal examination I could feel with the apex of my right index a piece of placenta in utero. I tried to press down the uterus from above with the other hand, but as the patient was very fat this was not successful. I then seized the anterior lip of the cervix with the volsella, and drew down the uterus with the left hand, while with the right index I was then easily able to reach, detach, and bring away the piece of placenta I had previously felt. She had no further trouble.

In one case after removing the placenta the uterus did not seem to contract well, and some bleeding still occurring I swabbed the interior of the womb with perchloride of iron. This promptly arrested all hæmorrhage.

3rd. *Incomplete or Neglected Abortion.*—In hospital practice one sees a great many cases of this character. A woman comes to the extern ward complaining that she is losing blood, and, as she puts it, "she is never well." From her history one gathers that after having passed two or three periods she had a sharp flooding, and that ever since she has had an almost constant red discharge. Such forms of menorrhagia are common among married women, and in them a flooding that has set in after one or two periods have been missed should always be regarded as the result of an abortion. In such cases the usual practice is to dilate the cervix, and then to evacuate the interior of the uterus; but I would strongly recommend as a better line of practice the careful use of the curette. It can be done at once, and, if antiseptic precautions are used, this plan is attended with less risk than the use of the tent. In curetting cases with a history such as I have given, one sometimes meets with a bit of placenta or brings away a piece of vascular tissue, which has developed at the place where the placenta had been attached. I give the following cases from my note-book :—

Case II.—M. A., aged thirty-five, four children, no abortions, was admitted to Royal Hospital, November, 1885. In September had suddenly "a good deal of loss" after having passed two periods, and ever since has had a red discharge, which is increased on making any exertion.

On examination, uterus enlarged bimanually, sound goes half an inch beyond normal, os slightly patulous. Uterus was curetted, and a piece of placenta, size of a bean, removed. Liniment. iodi applied to uterine cavity. All hæmorrhage ceased, and patient, after having been in hospital fourteen days, was discharged cured.

Case III.—Mrs. F., aged twenty-seven, sent from the country, Christmas, 1886. After having seen nothing for twelve weeks, she had a severe loss, and "it has come and gone ever since."

Uterus, on examination bimanually and with sound, found enlarged. The curette was used twice, and on each occasion a vascular portion of tissue removed. Uterus swabbed each time with perchloride of iron. Complete recovery.

In certain cases the retained placenta decomposes, and there is a fœtid discharge, and the patient is seized with a rigor, followed by fever; while in other cases the patient when first seen is suffering from septicæmia, and the history alone gives us a clue as to the source of the local poisoning.

In such cases the uterus should at once be cleared out. I think tents should be avoided, but the curette may be used, or if dilatation is practised it should be done by Hegar's bougies. It is in cases like these that antiseptic irrigation of the uterus, especially with a 1 in 2,000 solution of perchloride of mercury, is of such service. In using this solution great care should be taken, by pressure with one hand above the uterus, and by holding the perinæum back with the other, to avoid leaving any of the fluid behind. In these cases a repetition of the sublimate solution is not necessary, but the plan recommended by Dr. Champneys of leaving a bougie of iodoform in the uterus is most useful. As it gradually melts it keeps the parts under the influence of iodoform.

In conclusion, let me say a word or two as to the after-treatment and the prophylaxis of abortion. The reason why chronic uterine disease so often follows abortion is that women think such a condition of slight moment, and do not give the womb an opportunity of returning to its normal condition. The uterus which contains a piece of placenta continues enlarged, as it also does if the patient moves about a few days after an abortion; it remains in a condition of passive congestion, the connective tissue gets increased, and finally we have a form of chronic metritis or "areolar hyperplasia." It is in the case of a patient with a uterus large, hyperæmic, and heavy after an abortion, that displacements are liable to occur. Again, owing to its incomplete involution, various other pathological conditions may arise. All this teaches us, I think, the lesson that a patient after an abortion should be kept as long in bed, and as carefully attended to, as after a full-time delivery. In order to aid the involution of the uterus, I have found a combination of ergot and quinine or ergot and strychnin useful.

Prophylaxis.—Our treatment of abortion by no means ends when we have cleared out the uterus (by natural or artificial means) and have got our patient up and well again. The careful and scientific obstetrician will endeavour to find out what has been the cause, in order that an abortion may be obviated should conception again occur. The most careful inquiry should be made as to any specific taint on the father's side, and treatment directed accordingly. Indeed, in such circumstances, it is well to put both parents under a course of anti-syphilitic remedies.

Is there any morbid condition of the uterus? Endometritis should be treated and displacements corrected.

Have there been any degenerative changes in the chorion or placenta? In such circumstances Sir James Simpson gave chlorate of potassium, and others have found benefit by recommending this line of treatment.

Is the mother at fault? Extreme care should be taken that she is kept free from any causes such as grief, shock, fright, which might, acting through her nervous system, cause an abortion. Fehling has recently directed attention to renal disease in the mother as a great cause of producing a cessation of pregnancy. If a patient aborts frequently, instead of contenting ourselves by saying she has acquired this habit, we should rather endeavour to find what is the acting cause. It may be a posterior displacement, syphilis, or some morbid condition of the uterine mucous membrane.

In the case of a patient who has become pregnant again after having aborted, the greatest care should be exercised during the first four months, and especially at those times when the periods ordinarily would occur, when she should be kept in bed or on the couch. She should not indulge in travelling or carriage exercise at these times, and all strong purgatives should be avoided. Dr. Jenks (an American) recommends half to one drachm of the liquid extract of viburnum prunefolium, to be taken four times daily at the time the periods should occur, and also for two days before and after. It is not to be taken after the fourth month. In his most admirable annotations in "Smellie's Midwifery," the late Dr. M'Clintock recommends chlorate of potassium and the tincture of iron in cases where the death of the fœtus is not traceable to a syphilitic taint in either parent. He says it should be commenced some weeks before the time at which the death of the fœtus is likely to occur (as shown by the history of the woman's previous pregnancies), and be continued up to the time of labour.

In this communication I have, as a rule, brought under your notice only those methods which I have myself tested and found useful in hospital and private practice.

ART. II.—*A Case of Pityriasis Rubra.*[a] By WALLACE BEATTY, M.D. Univ. Dubl.; F.K.Q.C.P.; Senior Assistant Physician, Adelaide Hospital.

As pityriasis rubra is rare, I think an account of a case of this disease which came under my observation may not be without some interest. Two cases only of this disease have been published before in Dublin—one by Drs. Benson and Walter Smith, the other by Dr. Finny. My patient's history is as follows:—

Mrs. B., aged seventy-one, was admitted into the Adelaide Hospital on April 15th last. Except for an eruption on her head which she had when a baby, and for an attack of measles, she was quite strong and healthy up to the age of twenty-six, when about six weeks before the birth of the only child she ever had, she received an injury to her abdomen when travelling by train from Belfast to Portadown. Two men were fighting in the railway carriage and fell on her. She was much hurt and had to be helped out of the carriage. After that day, however, she was able to be up and about (feeling at times abdominal pains), until the birth of her child, which took place at full time. The child lived only two days. She says the flesh of the baby was wrinkled on its face and body, as if it had been a fine child up to the time of the hurt; it had not any eruption on its body.

A few hours after the baby was born inflammation of the bowels, she said, set in, and some time after her left leg and arm became swollen, the leg being most affected; it was leeched several times. For several months after her confinement she was unable to leave her bed, as, in addition to the affection of her leg and arm, her womb, she says, gathered, and a very great discharge came from it.

Turpentine stupes were used for the abdominal trouble after birth. The turpentine brought out a rash on her abdomen, which spread to the chest and extended down the arms. The rash finally settled upon the backs of the hands, leaving the other parts. The

[a] Read before the Medical Section of the Academy of Medicine in Ireland, on Friday, May 27, 1887.

eruption continued on the hands for rather more than two years. She then came up from the country to Dublin and consulted the late Dr. A. Colles, who, she says, expressed surprise at her coming up to Dublin for such a trivial complaint. He cured the affection for her. Since then, until the skin affection which I am about to describe, commenced—*i.e.*, till about a year ago—she says she has enjoyed good health, with the exception that, from time to time, she has had attacks of diarrhœa. These attacks did not confine her to bed, except on one occasion, two years ago, when she was very ill therefrom under Dr. Pollock's care in Blackrock. She has also been subject to bronchial trouble, "her pipes wheezing," as she expresses it; this, however, did not lay her up or cause a feeling of illness.

About a year ago an eruption appeared on her skin, commencing on the skin adjoining the vagina; thence it spread to the thighs and legs, abdomen, chest, and arms, and finally to the face, thus becoming universal; her face was affected only about ten days before her admission to the Adelaide Hospital.

The patient, on her admission to the hospital, presented a very remarkable appearance. With the exception of the face, scalp, hands, and feet, the description of whose condition I shall give presently, the entire surface of the body was of a red colour, the depth varying somewhat in different parts, and more or less copiously covered with thin, dry, papery, white scales of various sizes. The red colour of the skin was seen best where the scales were wanting—viz., in the axillæ, the under part of the mammæ, along with the surface in contact with it, the inner surface of thighs and the back of the knees—these flexor surfaces were almost entirely free from scaliness. Elsewhere the scales were very numerous and close together; they were of irregular-shape, and varied in size, the average being about one-third or one-half inch in diameter; but there were some much larger, others smaller. The scales were partly attached and partly free; their free ends stood out at an acute angle from the surface, and in many the edges were curled. They could be removed readily without pain. On removing the scales the surface on which they rested was soft, but there was no perceptible moisture.

On close examination they were seen to be marked in a retiform manner with very fine and closely-set ridges, evidently corresponding to the lines of the skin. The back, hips, and external surface of the thighs, the shoulders, and chest were remarkably

scaly, and indeed the appearance was not at all unlike as though pieces of tissue paper, torn into small pieces of various sizes, were partially stuck on to the skin close to one another, and left partially free. On looking at the back, from the neck down to the hips, the scales, which were present in remarkable quantity, were seen to be larger towards the lower part. Like the chest, shoulders, and back, the abdomen was covered with scales, but they were smaller and not quite so closely set together, so the red colour of the skin beneath was rather more obvious. The forearms and legs were also affected in like manner to the rest of the body—the scales here were not very large—on pressure the red colour faded to yellow. The legs and feet were œdematous, and pitted deeply on pressure. As to thickening and infiltration of the skin, it was considerable in the forearms, but elsewhere was slight. On the scalp the scaliness was marked round the borders, but on the vertex the scales were small, and mixed up with some that were seborrhœic. The scales of the borders were mostly of an elongated form, partly detached, and where detached looked almost of silvery whiteness. The surface under these scales was smooth and shiny. The face presented a remarkably tightened appearance, which was due to the fact that the epidermis was not exfoliated as upon the rest of the body, but was in most places simply cracked here and there, the borders only of these cracks showing white from the epidermis here being detached from the skin beneath to the extent of only about half a line. On the forehead the surface looked pale, the epidermis dry, cracked here and there as though about to desquamate. At the borders of these cracks, where the epidermis was slightly free, it showed, as stated above, white, so that the forehead showed a network of whitish, almost silvery lines. To the touch the surface had somewhat of a parchment-like feel. Round the eyes the epidermis was partly detached to form scales. The cheeks had much the same appearance as the forehead. On the chin the epidermis was cracked, mainly in a vertical direction, so that the scales, free only at their lateral margin, were arranged more or less vertically; the chin had a remarkably tightened look. Indeed, the skin of the face generally was stiff, dry, and had a tightened, drawn appearance. The auricles were thickened, covered with white scales on both surfaces. At the back of the lobule of the left auricle the surface was eczematous; it was moist, with sero-purulent exudation. Behind the right auricle were two vertical fissures. The appearance which the feet presented was as follows:—

The dorsum, as far as the end of the metatarsal bones, was red, and covered with white scales as on the rest of the body; on the dorsum of the phalanges the epidermis was dry, and cracked here and there. The sole and borders of the foot were not scaly, but the epidermis presented a dry, wrinkled look, and here and there it was cracked, and the cracks showed white borders.

As to the hands, on the dorsum there were a few white scales, and the skin was here and there cracked deeply, showing dried blood clots in the fissures.

On the phalanges the epidermis was of a yellowish colour, and wrinkled, and only here and there cracked. The palm of the hand had much the same appearance as the phalanges, except in the centre, where the epidermis was partly separated to form scales.

On the legs especially, and here and there on some other parts, were seen very minute pin-point sized hæmorrhages in the skin.

The subjective sensations were mainly itchiness, which was marked, and disturbed her rest at night for the first few days after admission.

I may say there was no albumen in the urine. The heart, too, was quite healthy.

From the above description it will be observed that with the exception of the nails the entire external surface of the body was affected. There was no sign of disease seen on the mucous membranes of the nose or lips.

On admission to hospital, I prescribed three minims of the hydrochloric solution of arsenic with 20 grains of bromide of potassium thrice daily. The latter I ordered to relieve the itchiness. For about four days there was no change in the condition of the skin, except as regards its irritability, which was greatly lessened. After about four days improvement commenced, the skin became paler, and new scales ceased to form. The improvement was exceedingly rapid. I did not adopt any local treatment until April 22, by which time an improvement had already begun. The local treatment was limited to the lower extremities for some days, and consisted in washing with soft soap and the application of zinc ointment. Subsequently she was given warm baths, in which soap was freely used.

About a week after her admission into hospital, but after improvement had already begun, she got a slight attack of bronchitis. She was given iodide of potassium for this, the arsenic and bromide being continued at the same time.

In the beginning of May she was very much better. Her face had quite recovered its natural condition, except for a few minute scales here and there on the forehead. The œdema of the legs had almost disappeared, and the scaliness on the body was limited mainly to the lumbar region. On about the 10th of May her mind, which was before quite sound, became disturbed. She began to have delusions—*e.g.*, imagining the patients in the ward with her were whispering about her, and at night she wished to get up and put on her clothes. I stopped the bromide on the 12th, continuing the arsenic. On May 16th her mind was greatly disturbed; her pulse was very jerky and incompressible. Dr. Head saw her with me, and advised me to stop the arsenic, and give her a good purge, which I did.

After her bowels had been well moved, her restlessness almost entirely ceased, and her mental condition became almost restored. Still, every now and then she had delusions. She left the hospital on May 21st. I saw her husband the next day. He told me, except for occasional delusions, she seemed quite well, and in very good spirits. On the day she left the hospital the cutaneous affection was entirely gone from every part of her body with the exception of the back of the knees and legs, where there was some redness with scaliness. Dr. Walter Smith, who kindly saw her that day, can verify my statement.

The eczematous condition behind the left auricle lasted only a few days, as long as the stiffness of the auricle lasted. Therefore, it must be regarded as secondary.

The points of interest in this case, in addition to the rarity of the disease, seem to be—

1. The advanced age of the patient. She was seventy-one.

2. The rapidity with which the disease disappeared under the use of arsenic and bromide. Certainly she got iodide of potassium as well, but it was not given until after improvement had already begun. It may be noted that improvement had already begun before local treatment was commenced. The local treatment was limited to baths, soap, and zinc ointment.

3. The fact that with the disappearance of the cutaneous affection mental derangement occurred.

The universal involvement of the skin, its freedom from moisture, and the fact that the scales were exclusively exfoliated epidermis, seem to me to distinguish the affection from eczema, to which disease it bore the closest resemblance.

ART. III.—*Brachial Monoplegia complicating a Case of Enteric Fever.*[a] By ROBERT S. ARCHER, B.A., M.B., M.Ch., Trin. Coll. Dubl.; late Physician, Netherfield Fever Hospital, Liverpool.

OF all the acute specific fevers common in this country there is no one that presents to the clinical observer so many complications during the course of the disease proper, or during convalescence so many sequelæ, as does enteric fever. It may be laid down as a broad principle that in this affection there is almost no organ or tissue of the body that is not liable to be affected by some secondary lesion, either in the acute stage or when the primary febrile symptoms have subsided. So insidious is the onset of many of these complications, and so fraught with imminent danger are some of them, that it behoves the physician to be constantly on the alert to detect their first approaches, and, if possible, to ward off a fatal termination.

The communication I have the honour to bring forward on this occasion has reference to a complication of extreme rarity, and on this account it is hoped it may prove of interest. It is not my intention to weary you with a detailed clinical history of the case, but I shall merely present for your consideration some of its salient points.

CASE.—James G., aged twenty-two years, came under observation in hospital about the end of the first or the beginning of the second week of enteric fever. The onset was marked by shivering, pains in limbs and back, headache, sore throat, and pain on swallowing.

On admission there were a few undoubted enteric spots on the abdomen; the tongue was dry, covered with a brown fur, and tremulous; there was cæcal gurgling, but no distinct tympanites; tonsils ulcerated; blood-tinged expectoration; sonoro-sibilant rhonchus over both sides of chest; pulse 100; temperature ranged between 103° and 104° F.; respirations 30; bowels constipated—a feature which characterised the case throughout its course. The ulceration of the tonsils gradually extended till, on the ninth day, it had implicated the uvula and back of the pharynx. The eleventh day was marked by delirium and attempts to get out of bed, profuse perspiration over head, face, and neck, great exhaustion, and extreme feebleness of the first cardiac sound. There was also, about this time, consolidation of the base of the left lung. On the following day there were three copious stinking bloody motions—the only occasion on which anything approaching diarrhœa occurred. The delirium continued, and there was great prostration, the pulse ranging

[a] Read at the Meeting of the Liverpool Medical Institution, March 3, 1887.

from 100 to 180. For the next two days there were frequent attempts to get out of bed. The pulse ranged between 120 and 138. The temperature, which had fallen in consequence of the hæmorrhage, ran up on the fourteenth day to between 103° and 104°. On the fifteenth day there was a complaint of *numbness in the right arm*, and tremor of the lower jaw was observed. During the next seven days weakness of the right arm gradually became intensified, till, on the twenty-first day, the limb was noticed to be very weak, and the grasp of the hand extremely feeble. This period was characterised by occasional profuse sweatings, more or less constant delirium, muscular tremors, picking at the bed-clothes, at times involuntary urination, and implication of the base of the right lung, in addition to the left, by consolidation. Pain, tenderness, and deafness of the left ear were observed on the twenty-second day, and these symptoms were the precursors of a purulent discharge six days later. This discharge continued for several days.

The temperature reached the normal line on the twenty-first day, but began to rise again on the thirty-fifth, and pursued a febrile course, marked, for the greater part, by considerable remissions, till the fifty-second day, when it became permanently normal. *Great* pain and heat were noted as being present in the right arm and hand on the twenty-eighth day, and continued to trouble the patient for several days. On the thirty-fifth day the dynamometer indicated 8 kilogrammes on the right side, and 40 on the left; there was also considerable wasting of the muscles of the right arm and forearm, as compared with the left. From this on the right arm seemed to gain more strength, till, on the thirty-eighth day, the patient could lift the arm over his head, could flex the forearm, and pronate and supinate the hand to a moderate extent. For the next ten days the elbow grew gradually more rigid, till it became fixed at a right angle, and attempts to straighten it caused considerable pain. This condition improved till the patient's discharge, on the sixty-seventh day, when the elbow could be fairly well extended and flexed, but his hand remained so weak that he could not execute any of the finer movements, such as writing, holding a knife, or picking up small objects. The wasting of the muscles had considerably improved.

Remarks.—Paralysis confined to a single limb, or to the area of distribution of a given nerve, is a very rare complication of enteric fever. Indeed, true paralysis of any kind is not of frequent occurrence in this disease. Murchison, in his vast experience, does not appear to have met with a case such as the one related above, and Liebermeister does not mention it; and so it must be assumed that he also did not see an example of this complication. A search through several other works on Fever has not met with any better success. The only direct reference to this affection in

connection with enteric fever that I have been able to find, and it only bears on the subject partially, is in the *International Journal of Medical Sciences*, April, 1886, p. 593, where there is a short notice of a paper by Pitres and Vaillard, in the *Revue de Médecine* of December, 1885, on "Peripheral Neuritis in Typhoid Fever." Two cases of paralysis of the ulnar nerve during convalescence from typhoid fever are reported, in which atrophy of the muscles followed. The conclusions arrived at by these authors are shortly summarised as follows :—"1. Among the various nervous affections which may develop after typhoid fever are the peripheral neuritis leading to paralysis of limited groups of muscles, accompanied by pain or anæsthesia, rapid diminution of the electrical excitability, and wasting of the affected muscles. 2. So far the neuritis has been demonstrated in only one case—that of Bernhardt; but its existence is shown by the analysis of the symptoms and the course of the paralysis. 3. Histological examination shows that in persons dead of typhoid fever, the peripheral nervous system is often the seat of parenchymatous neuritis. When these changes are not very advanced they may be latent or give rise to only ill-defined symptoms, but when more severe they become manifest, as the sensory, motor, and trophic disturbances characteristic of peripheral neuritis."

The paralysis in the case I have related above evidently was owing to a neuritis in which the majority of the branches of the brachial plexus supplying the affected limb was involved. That the whole of the branches did not participate in the inflammatory process is evident from the fact that the patient never lost entire control over the fingers, and was able to execute certain limited movements in connection with the elbow and shoulder joints.

The various paralytic affections observed in relation to the acute specific fevers usually occur in the stage of convalescence; but in this case it will have been noticed that the first symptom of nerve lesion began at the commencement of the second week of the fever, and the limb had not recovered its functions when the patient was discharged on the sixty-seventh day. The secondary febrile attack, which commenced on the thirty-seventh day and continued to the fifty-second, cannot be regarded as a relapse, but was due, at all events in part, to the neuritis.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

1. *The Practice of Pharmacy: Intended as a Hand-book for Pharmacists and Physicians, and a Text-book for Students.* By JOSEPH P. REMINGTON, Ph.G.; Professor of Theory and Practice of Pharmacy, and Director of the Pharmaceutical Laboratory in the Philadelphia College of Pharmacy. With nearly 500 illustrations. Philadelphia: J. B. Lippincott Company; London: Burroughs, Wellcome & Co. 1886. Pp. 1,080.

2. *A Text-Book of Pharmacology, Therapeutics, and Materia Medica.* By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S.; Fellow of the Royal College of Physicians; Assistant-Physician and Lecturer on Materia Medica at St. Bartholomew's Hospital; Examiner in Materia Medica in the Universities of Oxford and of London; late Examiner in the University of Edinburgh, in the Victoria University, and in the Royal College of Physicians, London. Adapted to the United States Pharmacopœia by FRANCIS H. WILLIAMS, M.D., Boston, Mass. Third Edition. London: Macmillan & Co., and New York. 1887. Pp. 1,261.

3. *Griffiths' Materia Medica and Pharmacy.* Third Edition. Edited, and in part written, by ALFRED S. GUBB, L.R.C.P., &c. London: Baillière, Tindall, & Cox. 1887. Pp. 464.

1. A PORTLY handbook (!) of over 1,000 pages has been compiled by Professor Remington, who, since 1874, has occupied the Chair of Pharmacy in the Philadelphia College of Pharmacy. He has likewise played an active part in the preparation of the Pharmacopœia of the United States and of the United States Dispensatory, and so is well qualified for the onerous task he has undertaken.

The work is divided into 6 parts. Part I. is devoted to General Pharmacy. Then we have the Officinal Preparations, Inorganic

Chemical Substances, and the Carbon Compounds, or, Organic Chemical Substances. Part V. treats of Extemporaneous Pharmacy—*i.e.*, the preparation and dispensing of such medicines as are intended for immediate use and are to be compounded at once; and Part VI. contains a Formulary of Pharmaceutical Preparations which have not been recognised by the U. S. Pharmacopœia.

Considerable care and labour have evidently been expended upon the text, which is clearly written. The practical methods described and illustrated are those best adapted for the needs of the many pharmacists who conduct operations upon a moderate scale rather than for those of the few who manage very large establishments. The publishers have done their part well, and we can commend the work as a complete and satisfactory treatise on practical pharmacy, which represents the improved apparatus, the revised processes, and the recently-introduced preparations of its day. It thus supplies an acknowledged want, and should be in the possession of every pharmacist and teacher of materia medica.

The illustrations number nearly 500, and are usually drawn in outline. Most of them are valuable and to the point; some few seem to be trivial and superfluous. The chemical grouping under the heading of the carbon compounds is based on practical convenience rather than on strict scientific classification, and, wherever necessary, useful lists of unofficinal products and preparations are appended to the sections.

2. A third edition within two years of Dr. Lauder Brunton's Pharmacology realises the anticipations of those who were familiar with his scientific writings, and tells of a deserved success.

This rapid sale of a book that has broken new ground, and given so much space to the consideration of the physiological action of drugs, is a pleasing evidence of the desire of the profession to escape from the trammels of empiricism, in which they were so long confined for want of a guide; and surely no writer was more fitted for the task he undertook than Dr. Lauder Brunton. His scientific acquirements and his literary gifts led the profession to expect much from him, and he has fully realised the wishes of his friends.

The short interval of time that has elapsed since the first edition appeared has not allowed of any marked difference in the present edition and its predecessors, yet we notice that the first section, which is on Pharmacology, has been increased by about 100 pages,

and an appendix has been added, in which the more recent additions to materia medica find a place.

In the first section, which is by far the most valuable, the author's great industry, exactness as an experimenter, knowledge of physiology, and ability as a teacher, are evidenced on every page. It is this section that gives such a high value to the book; and of its twenty chapters it is difficult to give a preference where each is marked by consummate ability; to us his chapter on the "Circumstances which affect the Action of Drugs on the Organism," and that on the "Action of Drugs on Respiration," appear the most instructive, and exhibit originality of thought and power of illustration more than any others. The details of experiments and the physiological explanations are printed in small type, so that the student preparing for an ordinary "pass" examination, and the busy practitioner who is naturally more interested in the practical matter, may avoid them if time or inclination does not allow of their being read.

The short preface to section four is worth reproducing, as it tells of the rapid progress of organic chemistry, and prefaces a section which, as we believe, appeared in Dr. Lauder Brunton's book for the first time:—"This section contains organic compounds artificially prepared, and not merely extracted from vegetable substances containing them. Although it is small, it contains most of the important remedies we possess, and in the future will probably replace to a great extent, and perhaps entirely, the vegetable materia medica"—a statement curiously supported by the inclusion of methylal, urethan, and iodol, in the appendix to the present edition. By means of diagrams the author graphically represents the synthesis of many of our better-known preparations belonging to the "fatty" and "aromatic" groups. Roscoe is rivalled in his power of making plain and interesting the reactions of the organic radicals. All who read this marvellously lucid writing must regret how deficient in knowledge of organic chemistry the average medical student is, and how shamefully the Licensing Bodies have allowed this very important subject to be neglected by sanctioning examinations on chemistry that were transparent shams. How many practitioners will regret this deficiency in their education as year by year—nay, almost month by month—the synthetical method adds powerful therapeutic agents to our list of remedies.

In a book possessed of so many excellencies as this there is

much to praise and almost nothing to condemn; still we think the praise bestowed on carbolic spray on page 104 would, if written in 1887, be more moderate. The omission of "salol" from the appendix was probably an oversight that the next edition will remedy. We regret that the advice given in these columns, in the review of the first edition, to improve or expurgate the wretched woodcuts that disfigure Section V. has not been followed; and still more do we regret that the preface to this edition should have been disfigured by personalities, and have been made a vehicle of attack on an opponent, instead of being confined to its legitimate matter.

In pointing out these defects we are actuated solely by a desire to have some blots removed from one of the most valuable text-books that the decade has produced—a book which it is a necessity for every student and practitioner to possess, who desires to know the present state of medical science and to learn the direction in which it is advancing.

The Pharmacology of Dr. Lauder Brunton has already deservedly attained the position of a "classic" in medical literature, and we believe posterity will confirm the judgment.

3. The Dublin publishers of the first edition of "Griffiths' Materia Medica and Pharmacy" having disposed of it to an English firm, Mr. Gubb has at their request brought it "into conformity with the last edition of the British Pharmacopœia." Why this should be called the third edition of the work, when it really is only the second, we cannot say. The first edition was published in 1879; and although no acknowledgment of his labours is made by the present editor, we are aware that it was edited, and in great part re-written, by Dr. Duffey, of Dublin, who, in consequence of the author's early and unexpected death, had a very incomplete manuscript left in his hands to work upon. With this, as Part I. of the work, was incorporated, as Part II., Dr. Griffiths' previously published "Notes on the Pharmacopœial Preparations." The whole constituted the first and only former edition of "Griffiths' Materia Medica and Pharmacy."

As regards the major part of the new edition, so far as it treats of those articles of the former Pharmacopœia retained in the present one, no material change has been made in the text, with the exception of the omission of some chemical equations, and of the explanations of the various pharmacopœial volumetric processes

given in the first edition. The latter omission is, we think, a mistake. Many pharmaceutical students would appreciate the explanations previously given of such bald statements of facts as, *e.g.*, that "four grains of arsenious acid dissolved in boiling water with 20 grains of bicarbonate of sodium discharge the colour of 808 grain measures of the volumetric solution of iodine." Otherwise the text of the first edition has been followed closely—so closely, indeed, that some minor errors in it have not been corrected, and some omissions in it have not been supplied. Thus, under the tests for arsenious acid (the proper chemical nomenclature for which, by the way, Mr. Gubb does not give), what is stated to be Marsh's test is in reality Fleitman's modification of that test. Some errors in chemical formulæ, overlooked in the first edition, have been reprinted in this, as well as wrong alphabetical arrangements and overrunning in the tables. Again, neither the dose of the gum-resin scammony, nor of its resin, nor of camphor, is given.

The bringing of the work into conformity with the last edition of the Pharmacopœia has not been so carefully done as it should have been. For example, the necessary alterations from the first edition have not been made in stating the present official strength of the solution of citric acid corresponding to lemon juice, and in giving the composition of the linseed poultice. The dose of the iodide of arsenic is omitted, and resin is ignored as a product of the Coniferæ. At one page the strength of the new Liquor Morphinæ Bimeconatis is correctly given, while at another page it is made to appear that each ounce of the solution contains only $4\frac{1}{3}$ grains instead of $5\frac{1}{2}$ grains. In the table of the medicinal plants furnished by the Leguminosæ all are made to appear as belonging to one sub-order (Papilionaceæ), which alone is given. In the first edition the plants were properly classified under the three sub-orders of this family.

It is to be regretted, we think, that in the new edition of this work, in which tabular arrangements form so special a feature, no effort was made to re-arrange the classification of the acids. Mixing up mineral and organic acids in their alphabetical order is unscientific and confusing, and the repetition of the dilute acids as a separate pharmacopœial group in Part II. seems quite unnecessary. To the long list of unclassed preparations in this Part also we should have been inclined to have added hard and soft paraffin instead of including them, as they now appear in Part I., among the preparations of zinc!

From these remarks it may be inferred, that while the present edition retains most of the distinctive features that caused its previous issue to be received with a considerable share of favour, it does not owe much to its new editor. The publishers, however, have done their share of the work well, and the book is of a more convenient size and shape than the first edition was.

A Junior Course of Practical Zoology. By A. MILNES MARSHALL, M.D., D.Sc., M.A., F.R.S.; Professor in the Victoria University; Beyer Professor of Zoology in Owens College. Assisted by C. HERBERT HURST, Demonstrator and Assistant Lecturer in Zoology in Owens College. London: Smith, Elder, & Co. 1887. Pp. 440.

THIS text-book is written on similar lines to Huxley and Martin's "Practical Biology," and although it will not displace the latter, and Howe's "Illustrative Atlas," from their present position as the best aids to an elementary knowledge of Biology, it will rapidly find favour with medical and other students as a well-arranged and convenient handbook.

Like Huxley and Martin's "Practical Biology," and Bower and Vine's "Practical Botany," this book deals with types, but as only zoological types have to be introduced, a larger number of these are dealt with than is possible in a manual of biology. As a rule the choice of types is good, but the liver-fluke and dog-fish—"of about two feet in length, which will be found the most convenient for dissection"—could not be easily obtained by ordinary students.

The most serious want in the book is that there is no species of amphibia described. This is probably because Mr. Marshall is the author of one of the many monographs on the frog; but, although this may not affect the Victoria University students, who will probably have both, it diminishes the completeness of the book as an introduction to Zoology.

No separation has been attempted between the laboratory work and morphological teaching, but the two are combined, the latter being made subsidiary to the former. This preserves the practical character of the book, and yet renders it readable, and enables the student to grasp the significance of what he observes.

In the arrangement and display of type the practical character of the book is again carefully considered. All directions for

dissections are printed in Italics, a system of indentation is adopted in order to render the subdivisions more distinct, and key-words are printed in large type. As far as could be managed, the descriptions are so arranged, that the entire dissection can be performed (when scarcity of material renders it necessary) on a single specimen.

The illustrations are not numerous, but most of them have two qualities which are rare in zoological literature—they are new and good.

A too-short Introduction of ten pages deals with the observation of animals during life, drawing, the methods of killing animals, dissection, injection, the use of reagents, microscopical examination. As might be imagined, but scant justice is done to the subjects, the first—on the observation of animals during life—being dismissed in five lines. Some of the others, however, are touched upon and added to in the practical directions given in other parts of the book.

The first types chosen are from the Protozoa—Amœba, Paramecium, Opalina, and Vorticella being described.

Then Hydra is described—H. viridis, H. fusca, and H. vulgaris are enumerated, but, according to the authors, "it is uncertain how far these species are really distinct from one another, and the following description will apply to any one of them." On what grounds this statement is made we are not told; it would have been much better to have described H. viridis, and then pointed out the particulars in which H. fusca (a separate species we still hold in spite of the authors) differ from it.

From the Vermes, the liverfluke (Fasciola hepatica), the leech (Hirudo medicinalis), and the earth-worm (Lumbricus terrestris), are selected for description. Fig. 17 is spoiled by being needlessly diagrammatic, but the transverse section of Lumbricus (Fig. 18) is very good.

The Mollusca are represented by the fresh-water mussel (Anodonta cygnea), and the edible snail (Helix pomatia), which, on account of its size, is selected in preference to H. aspera, which is common and easily obtained.

The cray-fish (Astacus fluviatilis) is next treated of, then the cockroach. The species of the latter selected is Periplaneta Americana, the common kitchen insect, P. Orientalis, being passed over.

The lancelet (Amphioxus lanceolatus) comes next. It is very

properly described with great fulness, and its structure is carefully and accurately dealt with. It is also illustrated by capital engravings, from original drawings by Mr. Marshall; the general view (Fig. 31) is far more natural, and yet clearer than the unsatisfactory diagrammatic representation usually given. The subsequent tranverse sections through the anterior and the hinder parts of the pharynx, through the atrial pore, and through the anus (Figs. 32 to 35), make the peculiar structure of the Amphioxus easily comprehended.

The dog-fish (Scyllium caniculata) is the next type, then the rabbit (Lepus cuniculus), and, lastly, the fowl (Gallus bankiva), and the pigeon (Columba livia).

A List of Reagents forms an Appendix, and there is a closely-printed Index of eighteen pages, which, however, only deals with the body of the book, no references to the Introduction or Appendix being given.

Manual of Bacteriology. By EDGAR M. CROOKSHANK, M.B. (Lond.), F.R.M.S.; Demonstrator of Physiology, King's College, London. Second Edition, revised and considerably enlarged; illustrated with coloured plates and wood engravings. London: H. K. Lewis, 136 Gower-street, W.C. 1887. 8vo. Pp. 439.

IN the number of this Journal for April, 1886 (Vol. LXXXI., No. 172, Third Series, page 320), we noticed with unqualified approval the first edition of Mr. Crookshank's "Bacteriology," which then bore the very modest title—"An Introduction to Bacteriology, based upon the Methods of Koch."

Little more than a year has since then elapsed, and yet the second edition has not only been called for but actually been published. The work has been enlarged to nearly double its original size—from 249 to 439 pages—and it in every way deserves its change of name from "Introduction" to "Manual."

One of the most important alterations has been the addition of chapters on the "General Morphology and Physiology of Bacteria," upon "Antiseptics and Disinfectants," and upon "Immunity." These chapters alone add 54 pages to the book, of which they form Part II., on the "General Biology of Bacteria."

Another new and valuable feature in the present edition is a chronological bibliography, running to 58 pages, and containing a very full list of references to works on Bacteriology, under the

headings "Methods," "Morphology and Classification," "General Biology," "Zymogenic Saprophytes and Fermentation," "Chromogenic Saprophytes," "Simple Saprophytes," "Ptomaines and Putrefaction," "Antiseptics and Disinfectants," "Immunity," "Bacteria associated with Diseases in Man and Animals," "Bacteria in the Air, in Soil, and in Water."

Lastly, the splendid collection of illustrations—many of them the handiwork of the author's gifted wife—has been increased in number by no less than seventy-three drawings, many of which were drawn on the wood by Mr. Crookshank from his own preparations. The volume has been brought out in first-rate style by Mr. H. K. Lewis, of Gower-street, London, W.C., and is in every respect a worthy memorial of indefatigable industry and scientific research.

On Overwork and Premature Mental Decay: its Treatment. By C. H. F. Routh, M.D. Fourth Edition. London: Baillière, Tindall, & Cox. 1886. Pp. 152.

In this essay the author describes what he conceives to be the consequences of overwork and of other exhausting conditions, such as venereal excess, too rapid child-bearing, hyperlactation, &c.

The work seems to us to have been written more for the public than for the profession, and is utterly wanting in logical conclusiveness and in scientific accuracy. As a sample we will quote the following passages, all to be found within the compass of two pages:—

"Whether softening of the brain itself, which occurs in old age, is due to a special deficiency of the phosphorus as protagon, remains yet to be proved; but with this softening we have marked mental decay. Protagon has the property when mixed with water of forming a strong jelly with it, $\frac{1}{10000}$th part being sufficient to insure this result. It is, in fact, one of the agents which *harden* the brain."

This is mechanical pathology with a vengeance.

"The quantity (*sic*) of food which is found most conducive to renovate weakened mental power is that which is rich in phosphorus. After excessive fatigue, especially in those cases where the mind has been highly interested, and kept, as it were, a long time upon the stretch, phosphorised foods, such as crustacea, bivalves, and fish, are found to be especially active for good and restorative. Indeed, here, as in many other cases, popular experience has gone before science. Young ladies

and gentlemen who have exhausted themselves by dancing and excitement, fly as if by intuition to the lobster salad. The rake finds nothing so calculated to excite his fading sexual powers as oysters and shellfish."

"Chloride of potassium is the chief ingredient of muscle, as chloride of sodium is of blood."

"Cod-liver oil, itself the agent above all others which recruits strength of body and mind, owes its beneficial effects in many cases to the phosphorus which it contains in considerable quantities."

We have too much respect for the medical profession to suppose that it is its members who have read four editions of this sort of literature.

St. Thomas's Hospital Reports. New Series. Vols. XIV. and XV. London: J. & A. Churchill. 1886.

THERE seems to have been some delay in issuing these Reports, as Vols. XIV. and XV. are the Reports for 1884 and 1885 respectively, and yet both of them are published only in 1886. Both volumes begin with portions of a paper on "Some Records of Surgical Experience," by Mr. F. Le Gros Clark. The third paper in Vol. XIV. gives the sequel to a case of enterotomy, by Mr. Wagstaffe. As the patient died two and a half years after operation of peritonitis, the cause of which was unknown, and as no *post mortem* was obtainable, we fail to see what practical good is to be derived from this communication, especially as Mr. Wagstaffe seems not to have seen the patient again after she left hospital, and depended solely on a very scanty report furnished to him as to her last illness. A paper on "Miscellaneous Cases and Observations in Ophthalmic Surgery" is contributed by Mr. Nettleship. Three cases are recorded of ocular diphtheria, one of them being peculiar, inasmuch as the disease began on the conjunctiva before attacking the throat. Dr. Bristowe relates several cases of tubercle of the cerebellum, which is intended as a sort of sequel to a paper on tubercular meningitis previously published in the Reports. Mr. C. A. Ballance describes a very interesting case of spasmodic wryneck treated by excision of a portion of the spinal accessory nerve. The nerve was exposed in the anterior triangle of the neck, before its entrance into the muscle, an inch was excised, and the proximal end stretched. Great improvement followed, although some of the smaller muscles in the neck showed symptoms of spasm later on. Mr. Clutton's paper on "Late Rickets" is of much interest,

as is also Mr. Makins' contribution of fifteen cases of empyema, in which a portion of rib was excised. The results in non-tubercular cases give one death to eight recoveries, but in tubercular cases the results are, as we should expect, bad. Mr. Makins prefers either the 6th or 7th rib in the posterior axillary line as the site for operation, and recommends chloroform in preference to ether as the anæsthetic to be used.

In Vol. XV. we specially note a paper on "Neuroraphy or Nerve Suture," by Sir William MacCormac. He relates three cases, the striking feature being the rapidity with which the nerve functions were restored. This was most noticeable, as is the rule, in regard to sensation. Another paper by the same author follows, on the relief of deformity caused by ankylosis of the hip. Dr. Anderson's introductory address, delivered at the Medical and Physical Society of St. Thomas's Hospital in October, 1885, treats of the history of art in its relation to medical science, and is illustrated by engravings from some curious old plates of the 16th and 17th centuries. This volume also contains papers on "Sanitary Science," "Cocain in Dental Practice," "Some aspects of the Vaccination Question," "Perforation of the Vermiform Appendix," "Neurectomy of the Second Division of the Fifth Nerve" by Mr. Clutton, besides several papers of minor interest.

Altogether, these volumes are creditable to St. Thomas's Hospital, and contain much that is of very great interest and importance to members of the profession.

Diseases and their Commencement: Lectures to Trained Nurses, delivered at the West London Hospital. By Donald W. Charles Hood, M.D., Cantab.; Physician to the Hospital. London: J. & A. Churchill. 1886. Pp. 138.

It is hard to see any reason for the publication of these lectures; they were delivered to trained nurses, yet they contain little that nurses trained in a large hospital would not be certain to know. Taken in connection with the cases the nurses were observing at the time, and illustrated by demonstrations in the wards, the information about the causes, courses, and results of inflammation—which is almost all the lectures mention—might be of assistance, but taken by itself it would be hard to find a book meant for nurses which in the same space gives so little useful observation. The last of the five lectures alone contains many hints which nurses

might find useful, and it is more than probable that they would be already acquainted with these.

The style is not always very clear. For example, on page 2 we find, "If I ask you why you nurse the sick, you will naturally answer that you do for him these offices which, by reason of his illness, he is unable to do for himself."

The text is not always carefully corrected. For example, on page 1 we find, "In other words, instruction in these principles which underlie—are, in fact, the foundation of your calling—nurses to the sick."

Anatomy: Descriptive and Surgical. By HENRY GRAY, F.R.S. Eleventh Edition. Edited by T. PICKERING PICK. London: Longmans, Green & Co. 1887. 8vo, pp. 978.

A NEW edition of this, one of the most popular of our systematic English text-books on human anatomy, has just appeared after a rather long interval. Considerable efforts have evidently been made by the editor of the present volume, that its hereditary favour shall suffer no diminution while under his supervision. Although human anatomy has for many centuries engrossed the attention of many able and enthusiastic students who devoted to it the best energies of their lives, yet the remarkable fact remains that it is only within comparatively recent times that its multitudinous facts and relations have been thoroughly systematised, or even described with tolerable accuracy.

There is, however, in the present day no lack of sufficient information derivable from the various known authorities on the subject; and the compiler of a text-book on human anatomy should easily be able to fulfil his task to the satisfaction of himself and his readers if he be not tempted to drift into carelessness, or to make too severe a trial of his powers of originality. "Gentlemen," said Dr. Barclay, lecturing in the Edinburgh Anatomical School, "anatomy may be likened to a harvest-field. First come the reapers, who, entering upon untrodden ground, cut down great store of corn from all sides of them. These are the early anatomists of modern Europe. Then come the gleaners, who gather up ears enough from the bare ridges to make a few loaves of bread. Such were the anatomists of the last century. Last of all come the geese, who still continue to pick up a few grains scattered here and there among the stubble, and waddle home in

the evening, poor things, cackling with joy because of their success. Gentlemen, we are the geese." We are entirely of the distinguished lecturer's way of thinking with regard to the relative value of the investigations carried out by the workers in the successive epochs of anatomical research. And the anserine comments on his investigations and discoveries, we are so often condemned to hear from the average "pure anatomist" of the present day and his clique of admirers, may well afford amusement to the cynic, but is "ghastly to the earnest soul."

The earlier sections of the book—those on general anatomy and development—have been considerably improved, indeed re-written, and, so far as can be done within the rather limited space assigned to them, give a very fair account of the histological structure and embryonic development of the human body. Full prominence is given to the importance of the researches of Allen Thomson, of Balfour, and of His.

The section on osteology presents the attraction of having the muscular attachments marked by coloured lines—a feature which possesses considerable value for the junior student. The dates of appearance of the ossific centres is given with greater accuracy, but we cannot reasonably hope that our numerical data on such a subject can ever be more than approximately accurate. Ten centres are now allotted to the temporal bone, and fourteen to the sphenoid—an advancement upon previous descriptions that will be received with qualified pleasure by the student preparing for his "First Professional" examination. It is now several years ago since Professor Hannover, of Copenhagen, pointed out that the sphenoid bone has no less than twenty-six centres of ossification. This, with many other original observations of great importance as well as of scientific interest, was communicated to this Journal in the form of an abstract review in the number for March, 1883 (Vol. LXXV., No. 135, Third Series, page 223).

Four centres are allotted to the squamous portion of the occipital bone. Some observers, however, have reported the existence of eight. There is a decided looseness of language in describing a cavity as triangular-shaped—a term here applied to the antrum of Highmore. The epithet of triangular should be limited to surfaces; the shape of the maxillary sinus is, of course, that of a triangular pyramid or tetrahedron.

The important practical question of the time of closure of the fontanelles is neatly and accurately dealt with. Of the infero-

lateral fontanelles the posterior, or fontanelle of Casserius, closes considerably before the other.

The somwhat unsettled question of the ossification of the scapula is dealt with by allowing two centres for each of the prominent processes (coracoid and acromion). As authorities for modified views on this subject we are given the names of Humphry, Cruveilhier, Thane, and Beclard. No reference is made to the more careful researches of Uffelmann. According to the elaborate investigations of this anatomist, the acromion process has usually three independent centres of ossification—the first of which (osteo-epiphysis media) bears the articular facet for the clavicle; the second (osteo-epiphysis anterior) for the apex; the third (osteo-epiphysis posterior) a flattened plate which extends from the adjacent part of the spine along the convex margin of the acromion. An additional ossific centre (osteo-epiphysis quadrangularis) was also demonstrated by Uffelmann in the Retzian tubercle, which becomes fused with the spine about the 21st or 22nd year.

The rather frequent deficiency of osseous union between the acromion process and spine is pointed out, and is a little fact with which the practical museum pathologist should be acquainted. The museum of the Royal College of Surgeons in Ireland has been rather liberally furnished with specimens of this nature, labelled "UNUNITED FRACTURE"—a mistake which we hope will be avoided in future.

The rules given for the recognition of the carpal bones (right and left) we still consider clumsy and unsatisfactory; this is the more to be regretted as they could be so easily improved.

In the description of the femur, the "*inferior cervical tubercle*" (of Bigelow) is left unnoticed. The diagrammatic impression for the attachment of the obturator internus gemelli is made smaller than that for the pyriformis, as well as placed directly in front of the latter; this, of course, includes two mistakes. On the next page we find the posterior view of the femur showing the impression for the outer head of the gastrocnemius, directly above the external condyle, and rather larger in area than that for the inner head of the muscle—a representation which also requires two corrections.

The description of the fibula, which gives the bone four borders and four surfaces, is much simpler and easier to follow than that which we followed in our student days, when there was the orthodox number.

The rules for distinction of the various tarsal and metatarsal bones are, as a rule, much clearer and simpler than those relating to the carpus and metacarpus.

Before leaving the description of the osseous system we must point out some other errors which still remain in a *partially* corrected state, as compared with the older editions. The bodies of the dorsal vertebræ are said to be as broad in the antero-posterior as in the lateral direction. In the older editions of this and other anatomical text-books, the antero-posterior diameter was made the greater. The mistake here involved was pointed out a good many years ago by Professor Humphry, and is simply due to the *optical delusion* produced by the direct backward continuation of the upper surface on each side on the upper margins of the pedicles. Direct measurement immediately removes the rather curious error thus produced, and has, at the same time, convinced us that this mode of examination has never been resorted to by the authors of the usual anatomical text-books.

The foramen ovale is made to transmit, sometimes, the small petrosal nerve. As a matter of fact, it hardly ever does; the usual course is through the *fissura spheno-petrosa*, between the petrous bone and the great wing of the sphenoid, near the apex of the former. A foot-note tells us that the nerve "sometimes passes through a special foramen, between the foramen ovale and foramen spinosum." This is quite true, and this foramen (canaliculus innominatus of Arnold), when present, which is not very often the case, is placed a little inside the plane of the oval and spinous openings.

We have dwelt with some length on the osteological section of the book, as it forms one of the prominent features of the work, being much more fully dealt with than in any other of the complete English treatises.

In the department of syndesmology, the classification of joints given at the outset is but moderately satisfactory, but the individual articulations are, as a rule, fairly well described.

The description of the transverse ligament of the atlas given in most of our text-books might easily be improved. From reading of it we gather the idea that it is markedly thick and strong, whereas it is neither one nor the other, and has very little to say to the strengthening of the osseous connections in this important articulation, as is usually insinuated. To describe the ligamentum suspensorium dentis as a strong ligamentous band is simply

ridiculous, and would make one suspect that the writer had never seen it.

The description of the arrangement of the laminar fibres of the intervertebral discs, long ago given by the brothers Weber, is still adopted—"Those near the circumference being curved outwards and closely approximated; whilst those nearest the centre curve in the opposite direction," &c. The error in this description has been fully shown by Professor Humphry, and the correction should not have been ignored.

The stylo-maxillary ligament is described and figured as a "thin aponeurotic cord," instead of being represented as a broad membrane, as it really is. The interarticular fibro-cartilages of the temporo-maxillary and sterno-clavicular articulations are described as being not infrequently perforated—an assertion which requires reconsideration. Apart from the effects of chronic rheumatic arthritis, such solutions of continuity will be rarely found to exist, as we can affirm from careful examination of a very large number of subjects.

Photography of Bacteria. By EDGAR M. CROOKSHANK. London: Lewis. 1887. Pp. 64.

IN the letterpress of this work the author gives a historical sketch of the art of photomicrography, followed by a description of the methods which he himself employs, and practical rules for the guidance of those who are about to undertake to make photographs of microscopic objects and more particularly of bacteria. In conclusion there is a short chapter in which are pointed out the numerous advantages which photographs have over drawings. The rules and directions laid down in the text will be found of inestimable service to beginners in the art of photomicrography, but the chief value of Dr. Crookshank's work lies, of course, in the photographs, of which there are eighty-six, collected in twenty-two plates. Many of these are enlargements in colours from negatives, and represent the objects amplified from 1,500 to 3,000 diameters. It would be impossible to speak too highly of the beauty of these reproductions, or to over-estimate their importance for the study of bacteriology. They form a most valuable supplement to the author's justly esteemed "Manual of Bacteriology," which we have already noticed at page 23 of the present number of the Journal.

PART III.

HALF-YEARLY REPORTS.

REPORT ON OPHTHALMIC SURGERY.

By Arthur H. Benson, M.A., F.R.C.S.I.; Ophthalmic and Aural Surgeon to the City of Dublin Hospital; Assistant-Surgeon to St. Mark's Ophthalmic Hospital; Examiner in Ophthalmic Surgery to the Royal College of Surgeons.

A systematic and complete review of all the work done in the field of ophthalmic surgery would be out of place in a journal of this kind. Our readers who require such will find numerous and exhaustive tabulations in the various journals specially devoted to the subject. We shall therefore confine ourselves to mentioning only a few subjects, and alluding to only a very few out of the many valuable monographs and papers on these subjects.

Text-books of Ophthalmology have been issued in great numbers, and some of them are of very high merit; but, as many of them have already been separately and fully reviewed in this Journal from time to time, we need not here recapitulate.

THE EYES OF DEAF MUTES.

Linnartz, of Aix-la-Chapelle, 1886, urges with considerable force the following points:—He considers (1) that the teacher of deaf mutes should be familiar with the present status and most recent advances in Ophthalmology, and its most important laws; (2) that the medical attendant should give an opinion regarding the vision of every deaf mute child before it enters the institution; (3) the more advanced deaf mute scholars must be instructed in the preservation and care of their eyes—sight being more important to them than any other sense.

We are glad to be able to urge these points upon public attention, as, having had occasion recently to examine the eyes of a large number of deaf mutes, we were surprised to find so many of them with sight very seriously affected, without the knowledge of the authorities, or of those who were directly engaged in teaching them.

"The influence of Intermarriage on the Descendants, with special reference to Congenital Blindness," by Zepler, of Breslau, 1886, is an inaugural dissertation. In regard to the injurious influence of consanguineous intermarriages he concludes that (1) blood-relationship among absolutely healthy families is not a source of danger to the offspring; (2) the injury done the latter by blood-relationship can be explained by potential heredity, the influence of which is sometimes increased by accidental causes; (3) collateral heredity occurs in a comparatively large number of cases, apart from consanguinity; but the actually existing conditions can only be determined by statistics of marriage among relatives. Zepler is thus more or less in opposition to the generally received opinion regarding the injurious influence of consanguineous marriages. From an ophthalmological point of view the frequent association of deaf-muteism with retinitis pigmentosa, and each with consanguinity, has been much regarded in times past.

TRANSPLANTATION OF ENUCLEATED EYES

has lately been attempted in a very large number of cases, but with little, if any, success.

Dr. May has performed over 30 operations, and has never obtained a satisfactory result. Many others have tried it with similar unsatisfactory results; Duci, Pierd'houy, Terrier, and many others, have reported cases so treated. May's experiments on rabbits lead him to believe the operation justifiable in man.

Rohmer has seen sympathetic ophthalmia produced by a case where, some weeks after re-plantation, the cornea perforated, and the contents of the globe escaped, leaving a small stump.

THE INTERDEPENDENCE OF ACUTENESS OF VISION AND THE INTENSITY OF ILLUMINATION.

Uhthoff (*Arch. f. Ophth.*, Vol. XXXII., 1) has an interesting article on this subject, as also has Charpentier (*Arch. d'Ophth.*, Vol. VI., 1). He has constructed several curves, which show the ratio between the increase of the intensity of a source of light and the corresponding power of perception. The two factors do not increase in the same proportion, as the power of perception does not increase proportionally to the increasing illumination. The greatest differences are found when the intensity of illumination is very slight. The ratio between the perceptions of light is there-

fore not the same as that of the corresponding intensities. The same law holds good for colours.

THE TREATMENT OF MYOPIA.

Förster, of Breslau (*Breslauer arztl. Zeitschr.*, 1886, No. 4), Priestly Smith, of Birmingham, and many others, have further investigated this subject from a general and school-hygienic point of view. Förster attributes the origin and development of myopia, in the first place, to convergence of the axes of the eyes, the ocular muscles thereby exerting a pressure upon the eyeball and thus increasing the tension within it. As a result, the sclera and chorioid become ectatic at the weakest point—the macula lutea.

When the posterior pole is turned outwards in convergence, the optic nerve drags at that portion of the sclera situated at its temporal side, and also at the chorioid lying upon it. The result is ectasia of the sclera, followed by atrophy of the chorioid. As the increasing myopia demands an increasing convergence, and as the latter in turn produces an increase of tension, it is evident why the myopia frequently remains progressive.

Although axis-myopia cannot be cured, yet we must try to prevent it, and if once established, to check its development. Reading and writing should then be performed only at the proper distance. In young persons with a strong power of accommodation, the myopia should be entirely corrected with the proper glasses. In those cases of myopia in which, for ordinary type, a greater distance than 25–30 cm. cannot be obtained with concave glasses, combinations of concave glasses with prisms (base inwards) are advised.

STRABISMUS.

Strabismus is a subject which has attracted an unusual amount of attention. The number of articles on this one subject is enormous, and many of them have emanated from most competent authorities.

Hirschberg, in the *Centralbl. f. prakt. Augenhk.*, 1886, p. 5, gives the practical results of his enormous experience. He determines the deviation of the squinting eye according to a method similar to that of Landolt, from the position of the reflex image of the cornea in that eye. He assumes five principal groups. The first includes the cases in which the corneal reflex is seen materially nearer the centre of the pupil than the papillary margin of the squinting eye—where there is, therefore, a squint of 5–6°. In such cases an operation is generally not indicated. The second group includes

the cases in which the corneal reflex is seen at the edge of the pupil of medium width, corresponding to a strabismus of about 12–15°. In such cases the simple division of the muscle is indicated. In the third group the corneal reflex appears beyond the margin of the pupil of medium width, corresponding to a strabismus of about 25°. In such cases the division of the shortened muscle and the moderate advancement of the antagonist are indicated. In the fourth group the corneal reflex appears at or near the corneal margin, corresponding to a strabismus of 45–50°. There must be a decided advancement in such cases, followed, if necessary, by division of the corresponding muscle of the other eye. The fifth group includes all the higher degrees of strabismus, 60–80°. In such cases the combined operation should be done on both eyes.

COCAÏN.

Concerning cocaïn, its use and abuse, much has been written. For the purpose of studying the corneal changes which occur after the instillation of cocaïn, Würdinger (*Münchener med. Wochenschr.*, 1886) repeatedly used a 5 per cent. solution on rabbits' eyes. One eye was kept closed, the other open. A loss of epithelium invariably developed in the latter, which, by continuing the experiment, constantly grew larger and led to complete haziness of the cornea. The greater action was not produced by stronger solutions or more frequent instillations, but by the longer duration of the experiment, and the greater length of time during which the eye was kept open. The author found that the corneal changes are due to evaporation and lymphatic anæmia of the cornea. He recommends the application of a gutta-percha sublimate bandage, continued for several days, to cut short a beginning cocaïn keratitis. As a prophylactic measure, he advises to first cleanse the eye with sublimate, and then begin with the instillation of cocaïn. After each instillation the lids must be tightly closed to keep out the influence of the air, and a moist bandage should be applied until it is time to begin the operation. Pflüger (*Zeb. klin. Monatsbl. f. Augenhk.*, Vol. XXIV.) describes two kinds of corneal opacity due to cocaïn. One begins at the edge of the operative wound, spreads into the corneal tissue, and is harmless, disappearing in one or two weeks. It is probably due to a deposit produced by the cocaïn in the lymph. The other is attended with long-continued diminished tension, and anæsthesia of the cornea; vesicles continue to form with great persistence, and the cornea has but a slight tendency to clear up.

GLAUCOMA.

For the treatment of obstinate glaucoma, where eserin, iridectomy, or sclerotomy, seems to promise but little good, many operators have opened the vitreous chamber in various ways.

Galezowski (*Ann. d'Ocul.*, Vol. XCV.) expresses himself in favour of sclerochoriotomy, which he performed in sixteen cases, and with good results. He introduces a Graefe knife between the superior and the external rectus muscle, at a distance of from 5 to 6 mm. behind the ciliary circle, plunges it into the vitreous body, and carries the incision forward as far as the region of the ciliary circle. The wound is sutured with catgut. In buphthalmos he makes two such incisions parallel to each other, but without any sutures.

Masselon (*Ann. d'Ocul.*, Vol. XCV.) proposes posterior or equatorial sclerotomy for certain cases of glaucoma, and bases his proposition upon the following reasoning:—In glaucoma there is hypersecretion. In many cases in which iridectomy is performed, the eye remains hard nevertheless, because the hypersecretion takes place in the vitreous chamber, and the excess cannot be carried off on account of the communication between the vitreous and aqueous chamber being shut off by certain abnormal conditions. Hence it must appear a rational procedure to open the vitreous chamber. Guérin had already performed this operation successfully in the past century. In order to spare the vitreous body as much as possible, the operation ought to be performed by making a puncture and counter-puncture with a Graefe knife, between the external and inferior rectus muscle in the ciliary region, in such a way that the knife remains on the surface of the vitreous body.

EXENTERATION.

Exenteration, or its more elaborate modification proposed by Mules, has, to a large extent, supplanted enucleation as a prophylactic against sympathetic inflammation in a certain considerable class of cases. Many operators have been performing it with individual modifications, and reporting their results.

In Italy Albini has reported eight cases, performed by Raymond, six of which healed without any noticeable reaction, so that an artificial eye could be inserted at the end of from seven to eleven days. In the two remaining cases the operation was performed on account of panophthalmitis after severe injury, and the healing

process took longer because the sclerotic sloughed, and there was considerable suppuration. This accident had not been observed before, as far as he knew, and Albani considered that it was due to the fact that the periocular connective tissue had been implicated in the panophthalmitic process. At the expiration of four weeks the orbita, being lined with conjunctiva, presented the same appearance as if enucleation had been performed.

NOTE.—We have seen a similar result in a case of severe injury followed by panophthalmitis where exenteration was performed. The whole sclerotic was cast off in large white sloughs.

CATARACT.

Concerning cataracts, much and various has been the literature. De Wecker regards the affection of the lens as analogous to gangrene, and distinguishes two forms—(1) dry gangrene, where the cataract is hard and the nucleus not well defined; and (2) moist gangrene, in cataracta nuclearis, with well-defined nucleus.

Bettremieux (*Arch. d'Oph.*, Vol. VI.) discusses the form of operation most suitable to various classes of cases, and concludes that (1), for the majority of cases of senile cataract, Daviel's method of extraction is the only "classical" one; (2) the method of von Graefe, of which iridectomy is an integral feature, is suited for a certain class of cases only; (3) iridectomy is indicated (*a*) as a preliminary operation for maturation, for optical purposes, and in certain complicated forms of cataract; (*b*) immediately before the delivery of the lens, when the iris presents an obstacle to the delivery, and when the patient is restless; (*c*) immediately after the delivery of the lens, if the iris has been bruised or cannot be replaced; and (*d*) some time after extraction, if there be prolapse of the iris; (4) in order to prevent suppuration it is necessary, besides the usual antiseptic precautions, to wash out the anterior chamber. Bettremieux recommends the antiseptic liquid of Panas (biniodide of mercury, 1 to 20,000 with 2 per cent. of alcohol), and a 3 per cent. solution of boric acid.

De Wecker recommends that after simple linear extraction without iridectomy, the anterior chamber be syringed out with a solution of eserin and boric acid, and that the bandage remain saturated with the solution for the first four days after the operation. For this procedure he claims the following advantages—(1) prolapse of the iris is prevented by the drug; (2) remnants of cortical substance which may have remained behind will be removed;

(3) it helps to re-establish the angle of the iris; and (4) to suppress conjunctival secretion.

Wickerkiewicz (*Annales d'Ocul.*, Vol. XCV.) deprecates the method commonly employed for the purpose of ripening miniature cataracts. His procedure consists of flooding the anterior and posterior chambers with a solution of chloride of sodium of the strength of 7 to 1,000, which has been boiled and allowed to cool down to 30° C.

HEMIANOPSIA..

Seguin (*Journ. of Nervous and Mental Diseases*, Jan., 1886) has tabulated forty-six cases of central hemianopsia, and, from a study of their histories, &c., concludes —(1) "That lesions in the mesal aspect of the temporal lobes, or even in the other basal districts of the hemispheres, may give rise to hemianopsia indirectly by pressing upon the primary optic centres, or upon the tractus optici and chiasm. (2) That lesions of the corpus geniculatum lat., pulvinar, and latero-caudal parts of the thalamus may cause hemianopsia, or hemianæsthesia alone. (3) That a lesion of the white substance of the occipital lobe, in the caudal radiations of the internal capsule, may cause hemianopsia alone or with hemianæsthesia. (4) That lesions of the supra-marginal gyrus, angular gyrus, and inferior occipital lobule, with the subjacent white substance, may cause hemianopsia, with or without other symptoms (hemiplegia, loss of muscular sense, word-deafness, &c.). (5) That a lesion of greater extent, involving the speech centre, the motor convolutions, and the parts enumerated above (4), due usually to embolism or thrombosis of the entire Sylvian artery, will, when existing on the left side, produce aphasia, hemianopsia, and hemiplegia. (6) That lesions of the occipital lobe, cortex, and subjacent white matter, produce blindness when bilateral, and hemianopsia when unilateral. This conclusion is in accord with Exner, 1881. (7) That a lesion of the cuneus and adjacent fifth temporal gyrus (Ecker) on one side produces lateral hemianopsia of the opposite side."

CYSTICERCUS.

Leber (*v. Graefe's Arch. f. Ophth.*, Bd. XXXII.) reports fifteen cases of extraction of cysticercus from the eye performed by him. The parasite was under the conjunctiva in one case only; in all the others it was either in the vitreous or under the retina. In two cases the diagnosis could not be made with certainty beforehand,

on account of the turbidity of the refracting media. The operation proved a complete success in eleven cases, and a failure in three only. In two instances of failure the parasite was located in the vitreous chamber, and in one instance it was under the retina. Inflammation never set in. In one case vision was restored to the normal standard. The improvement of vision obtained in each separate case by the operation proved to be permanent. Attention was paid to the exact closure of the conjunctival wound. Culture experiments were made to detect the presence of microbes in the entozoic cyst, and in one case with success.

[*To be continued.*]

"A CASE OF ENUCLEATION WITH REPLACEMENT OF THE HUMAN GLOBE BY THAT OF A RABBIT."

SUCH is the title of a reprint from the *Boston Medical and Surgical Journal* of September 17th, 1885. The patient was a sailor, thirty-five years of age, one of whose eyes was blind with long-standing atrophy of the globe. After enucleation a rabbit's eye was fixed into the position of the original eye, the optic nerve and the four recti muscles and the conjunctiva being sutured to their respective corresponding parts in the transplanted globe. No mention is made of the obliques; they seem to have been disregarded in the adjustment. After seven days the eye was examined, and though the cornea was slightly hazy, and the conjunctiva chemosed, "the movement of the eye was good in all directions, except that divergence was imperfect." On the eighteenth day the last note was taken; the "conformation and tension" are reported as "good; cornea improving, and has cleared peripherally so as to allow the iris to be distinctly seen; chemosis of conjunctiva has disappeared, although the membrane remains congested; exposed sclerotic on outer side of the eye practically covered by conjunctiva; ocular movements in all directions good." Considering the interest of such a case, and the fact that this reprint was made some time after the original notes were taken, we cannot but regret that no mention of the condition of the case at a subsequent time was made. The report bears the stamp of inaccuracy, as in no part is any attempt made to express the degrees of motion more definitely than by saying they are "good." That the case should have been published after only 18 days, seems to us most unseemly haste; and the fact that no later note of the condition of the eye was forthcoming attached to the reprint, confirms us in the belief that this, like other similar experiments, has entirely failed in the object in view. Such premature and incomplete reports are misleading and very injurious to the advancement of knowledge.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—Robert M'Donnell, M.D., F.R.S.
General Secretary—W. Thomson, M.D.

SURGICAL SECTION.

President—Sir Wm. Stokes, M.D., President of the Royal College of Surgeons, Ireland.
Sectional Secretary—Mr. W. Thornley Stoker.

Friday, Feb. 18, 1887.

Mr. Colles in the Chair.

Resection of the Pylorus.

Mr. M'Ardle read a paper on resection of the pylorus. [It will be found in the Number of this Journal for June, Vol. LXXXIII., page 511.]

Mr. Cox said the case had been under his care for intestinal obstruction a week or fortnight before Mr. M'Ardle performed the operation, enemata and various medicinal measures being unsuccessfully employed. The lower portion of the intestine was enormously distended. In passing the long tube it got coiled up in the rectum, and was rarely, if at all, passed beyond the rectum. There seemed to be a *cul-de-sac* in the lower portion of the intestine. Persistent cachexia indicated malignant disease, which, however, a most careful examination failed to discover, and he did not venture to locate it. The condition of the stomach was not so marked as that of the intestine, giving rise to the suspicion that there was some form of obstruction. He urged operation, while Mr. M'Ardle was loth to interfere, the man being wasted. The operation revealed the difficulty of diagnosis—a small, but firm and closely-adhering, band being found below the pylorus, which it would have been impossible to detect through the abdominal walls. Had the operation been done earlier, it might have

been successful, vitality more than anything else being essential to recovery. Hence he advocated early operation. He considered it would be a mistake to employ the thermo-cautère, as disintegrating the breaking-down tissue, and producing secondary hæmorrhage or ulceration.

Mr. Thomson would not, without modification, accept Mr. M'Ardle's proposition that exploratory incision of the abdomen was devoid of danger. While he never hesitated where there was a case of intestinal obstruction, or of tumour about which he was not clear, to open the abdomen, he did so with the full consciousnes that he was doing a thing which, no matter how carefully done, might, under certain circumstances, lead to death. With that modification, however, he accepted the proposition, regarding the operation as one of limited danger. Mr. M'Ardle had condemned gastro-enterostomy; but there were certain cases in which that operation ought to be done. Although it had the disadvantage of leaving the disease behind, on the other hand there were many advantages, especially that of enabling the patient, if the operation was successful, to get the benefit of food. Cases of malignant disease of the pylorus and stomach lived longer than Mr. M'Ardle had stated. In a case in which he himself had operated, he was enabled to lay the stomach on the abdominal wall and make a thorough examination. There were no adhesions, and the cancerous disease, involving as it did the greater part of the stomach, and extending into the pylorus, was so great that he returned the stomach into the abdomen and stitched the patient up. She got well without a bad symptom, and with the advantage that, though the symptoms—vomiting and inability to keep anything in the stomach—were troublesome before the operation, they disappeared afterwards, and she lived for sixteen months, when she died in the Hospital for Incurables. Thus, it was not universally true that those tumours were followed in twelve months by death. It was hardly fair to compare the failures in the early days of ovariotomy with those attending pylorectomy or gastrectomy, the risk in the operations being so different. An ovarian tumour was usually connected by a pedicle, and, if without adhesions, might be removed in a few minutes; but it was a different matter to deal with a hollow viscus like the stomach or a portion of intestine which was part of the body itself and very sensitive to shock. There was extreme difficulty in operations on the stomach, and hope could not be entertained of the like good results that had followed from ovariotomy.

Mr. Franks said there was a further difficulty of diagnosis without opening the abdomen—namely, the extent of the disease to determine the suitability of the case for operation. At the same time, he concurred with Mr. Thomson that the opening of the abdomen should not be lightly undertaken, while it ought to be done where the patient's life would otherwise be sacrificed. He had two cases, in which, after opening the abdomen, further operative procedure was abandoned. In the first,

the tumour seemed suitable for pylorectomy. A hard mass about the size of an orange could be grasped, apparently isolated and moved from side to side. But, on opening the abdomen, he found the pyloric end involved, and also a great portion of the colon behind. The unanimous opinion of surgeons present was to close the wound and proceed no further. In the other case, the tumour seemed perfectly movable, but was not well defined, and the abdomen was opened with a view to eradicate it. He found the tumour was a cancer involving the whole thickness and extent of the stomach, and also a large portion of the omentum and duodenum. Accordingly, the abdomen was closed.

Mr. M'Ardle replied.—He meant to convey that an exploratory incision of the abdomen was as devoid of danger as most operations, and was not so dangerous as it was generally supposed to be, and he advocated its adoption in all cases where death would ensue without surgical attention. All those varieties of cancer confined to the pylorus, and not spreading to the stomach, would be easily removable even when attached to the pancreas. His comparison with ovariotomy was to show that surgeons should not be discouraged. The limits of disease in the case of a movable tumour could be determined only by digital exploration. He thought that early operation was the most likely to lead to a favourable result.

Œsophagotomy to Remove a Foreign Body.

Mr. Barton, in a paper on this subject, referred to the removal of a foreign body impacted in the pharynx or œsophagus as a safe and justifiable operation in cases where removal through the mouth was difficult or impossible to effect. He spoke of the reasons which had probably combined to deter surgeons from performing it more frequently, and detailed the case of a child from whom he had removed by pharyngo-œsophagotomy the steel roller of a sewing machine, which had been imbedded in the pharynx, opposite the cornu of the hyoid bone for three months. The foreign body, which was larger in diameter than a sixpence, could be felt in the neck, and was safely and easily removed. The child made a good recovery, the greatest difficulty encountered being the feeding of the patient, which was troublesome owing to the tendency of food to come through the wound, which did not heal for some time. This was overcome by feeding through a stomach-tube introduced through the wound. Mr. Barton called particular attention to this plan of alimentation, which he considered would prove of much value in the after-treatment of cases of this class.

Mr. Wheeler, adverting to his own operations, said, in his first case, having removed a needle which was across the pharynx, he had, like Mr. Barton, some anxiety with regard to feeding the patient. What he did was to give him a sponge dipped in milk, and let him suck down the

food. In other cases he fed with a spoon, the head being thrown well back. He never stitched the pharynx, but allowed it to fall together, and close of its own accord. Instead of making an incision into the pharynx, he dilated it with a forceps, to avoid cutting the nerves, the implication of which might cause hoarseness.

Mr. W. Thornley Stoker indicated that the term œsophagotomy applied to the operation was a misnomer, and that the correct designation was pharyngotomy. He would not go the length of undertaking the operation after sundry easy attempts to get a foreign body out of the mouth, for he had attained the object after persistent, and even rough attempts. As a fair instance, Dr. Malone, of Limerick, had sent him a gentleman who had swallowed his false teeth and plate, measuring over two inches in length, and furnished with jagged springs which anchored the teeth in the wall of the pharynx. The gentleman arrived at half-past six o'clock in the morning. Mr. Thomson and he himself worked at him till nine o'clock, when they delivered him of the false teeth. They had only relaxed their efforts to refresh themselves by breakfasting in the course of the operation. If the surgeon could put his finger on the foreign body, he should be able to remove it without making an incision. Recent experiments suggested that swallowing was most easily performed when the patient was leaning his head forward, instead of backward, as with Mr. Wheeler's patient. A foreign body inside the neck could be readily felt by inserting a curved forceps and making pressure outwards.

Mr. T. Myles mentioned that in the Richmond Lunatic Asylum he observed that patients suffering from paralysis instinctively put the head out straight to facilitate swallowing.

Mr. Barton replied.—The feeding of his patient proved a real difficulty, especially as the patient was a child. His experience of passing the tube down through the wound was worthy of note. No doubt, the title of his paper was open to question, and might, perhaps, more correctly be set down as pharyngo-œsophagotomy, having regard to the steps of the operation as described. The main criticism was as to how far primary efforts to remove a foreign body impacted in the pharynx should extend before undertaking an operation. His case, it should be observed, was of three months' standing, whereas Mr. Thornley Stoker's was of recent occurrence. Besides, in his case, the foreign body had almost grown into the membrane of the pharynx, which had accordingly undergone considerable pathological changes, and, moreover, in old cases a sharp spiculated point or other sharp edge of a foreign body might perforate or tear arteries or nerves, producing a worse complication than the risk of an operation.

The section adjourned.

Friday, March 18, 1887.

The PRESIDENT in the Chair.

Secondary Suture of Ulnar and Median Nerves.

MR. J. H. SCOTT read a paper on nerve suture. The subject was a young man, aged twenty-one. He sustained an injury to the palmar surface of right forearm, about one and a half inches above the wrist-joint by putting his hand through a plate of thick glass. The accident occurred four months prior to admission into the Adelaide Hospital. There was distinct evidence, from the condition of the hand, that the ulnar and median nerves had been completely divided, without any attempt at regeneration. On April 16th, 1886, eighteen weeks subsequent to the injury, the ulnar nerve was sutured, three catgut ligatures being introduced to bring the freshly-cut surfaces together. Five days after the operation sensation had markedly improved. Patient returned to hospital on August 2nd, 1886, being desirous of having a similar operation performed on the median nerve, on account of the success of the former procedure. The median nerve was consequently sutured on August 31st, 1886, almost ten months having elapsed since the injury. Three weeks after operation the patient could distinguish the touch of a pin's point anywhere in the area of distribution of the median nerve. Mr. Scott stated that the result so far has been very satisfactory, nutrition of parts becoming rapidly normal. Judging from present appearances, there is every hope that the hand will become perfectly restored to usefulness.

SIR WILLIAM STOKES recalled a similar operation by Mr. Wheelhouse, of Leeds, who related the details at the meeting of the British Medical Association in Bath. A man having fallen accidentally on the sharp edge of a scythe, sustained a deep wound on the back of the thigh, followed by paralysis both of motion and sensation. About eighteen months after the accident he cut down on the sciatic nerve, which he found completely divided, and brought the ends together by sutures. There had been extreme muscular atrophy; but after the operation the man was soon enabled to return to his ordinary avocation as a field-labourer. Thus was proved the efficacy of the operation, despite the lapse of a long interval since the injury. Mr. Scott's case was a further illustration of the great importance of nerve suture.

MR. W. THORNLEY STOKER, having seen the patient, testified to the success of the operation in converting a comparatively useless into a comparatively useful limb, which was improving.

MR. F. T. HEUSTON, who had seen the case both before and after operation, testified to the improvement which had taken place.

Mr. Tobin observed that in gunshot wounds it was a canon of practice that when the chief nerve of a part was injured amputation ought to be performed; but it was clear that if the nerve could be united and sensation preserved there would be no necessity for such an extreme measure. At Suakim he had a case in which half an inch of the ulnar nerve was blown away by a gunshot. He performed excision of the elbow-joint, and having united the ends of the nerve sensation returned and the case turned out a success. At Netley there were a good many cases of wounded soldiers whose limbs were quite useless, and had they been subjected to the operation of nerve suture the result might have been different.

Mr. Foy mentioned a successful case of suture of the posterior tibial nerve by himself.

Mr. J. H. Scott replied.—He had had difficulty in bringing the ends of the nerve together. In the ulnar nerve the proximal ends contracted, and he forcibly flexed the hand on the forearm to bring them together, maintaining that position for five weeks. Even now there was difficulty in extending the hand, which was being gradually done.

Excision of the Knee-joint.

Mr. W. Thornley Stoker read a paper on "Some Elements of Success in Excision of the Knee-joint." He said that he wished to deal with two or three practical points which influenced the success of the operation. He considered that the results of excision of the knee had been too favourably stated, and that many instances recorded in their early history as ones of cure, had later on shown a return of disease. Age has been over-estimated as an influence for good or evil in this operation. Three things were to be regarded as of superlative importance in the prospect of success in excision of the knee—1. Complete removal of all diseased structures; 2. Relative permanence of dressings; 3. Thorough fixation of parts. With regard to the first, he laid great weight on the careful removal of diseased synovial membrane, the commonest seat of tubercular foci, and the most troublesome to extirpate. In speaking of the second he dwelt on the necessity for all oozing to have ceased before the dressings are applied, and argued against the use of Esmarch's bandage. He advocated the use of dry dressings, and the performance of the first dressing two or three weeks subsequent to operation. Speaking of the third point, Mr. Stoker recommended the use of P. Heron Watson's splint as modified by Mr. Thomson, and opposed the use of plaster of Paris as a retentive apparatus. He described the method of "doweling" which he had devised as a means of securing the bones, and which he had found most satisfactory. A full description of the plan, which is similar to that of Mr. Morrant Baker, will be found in the *Brit. Med. Journal* for April 2nd, 1887. Mr. Stoker stated that he

and his colleagues had had the method in use for more than a year, and detailed several cases illustrative of its excellence.

Sir William Stokes said the plan of fixation of the bones devised by Mr. Thornley Stoker should be welcomed by every operating surgeon as superior to any other method of bone suture. Speaking of doweling from the experience of his cases, he negatived the production of irritation or of suppuration in the part operated on.

Mr. Franks, taking *seriatim* the three points raised in Mr. Stoker's paper, said, with regard to the first, he concurred as to the removal of the synovial membrane, failure being mainly due to leaving foci of disease either therein or in the tissues round the joint. As to the second, the dry dressings were of inestimable value in keeping the part at rest without the discomfort of repeated dressings. He himself provided drainage by turning in little tongues of skin at the angles of the wound and stitching them to the back part of the soft tissues without leaving any foreign body in the wound except the silver wires. As to the third point, he employed the dowels in one case, which afterwards failed from other causes. At the same time, the dowels kept the bones in good apposition, and brought about satisfactory union. Still, while the fixation of the bones was satisfactory, he was not prepared to say that the dowels were better than the wire sutures.

Mr. Croly would be slow to report early cure in excision of the knee—an operation of which he was never fond, though it was a praiseworthy attempt to prevent amputation. Cases suitable for excision and amputation stood in different columns, and hence many failures were due to not making a proper selection. In excising the knee-joint he removed the cartilage, and unless the synovial membrane was dissected out there would be suppuration. Another important point was that of not opening into the popliteal space. The plan of cutting the bones from behind forwards disturbed the parts. He was also afraid of a prolonged operation. He had excised with and without Esmarch's bandage, but he did not use the objectionable India-rubber band. He objected to the plaster of Paris splint, as causing congestion if put on very tightly, while, on the other hand, if too loose, it was of no use at all.

Mr. Lentaigne experienced the persistency of sinuses and the recurrence of the disease necessitating amputation. It was a mistake to let a case leave the surgeon's care after two months without some external support to the knee; for in many cases a limb leaving hospital quite straight subsequently bent. Moreover, some of the cases discharged cured had crooked legs leaving hospital. He always insisted on the patient wearing a strong support for six or eight months after the operation.

Mr. Kennedy, having had considerable experience as house surgeon in the Richmond Hospital in the dressing of cases, agreed with Mr. Stoker

as to the desirability of removing the synovial membrane, suppuration after the operation being in proportion to the quantity of synovial membrane left behind. Again, in those cases in which Esmarch's bandage was used, it was necessary to open the dressing on the second day—and sometimes on the day—following the operation, owing to the oozing, which lasted twenty-four hours. He had found more care necessary in watching those cases in which Esmarch's bandage had been used than any others. The plaster splint was a mistake. It was easy to put up an excision of the knee with the splints in use in the Richmond Hospital. He preferred Mr. Stoker's plan of doweling to the silver wire sutures which, owing to the movements of the knee, had a tendency to tear through the bone. The increased confidence of patients was in favour of Mr. Stoker's method, and was a good test of its superiority.

Mr. Thomson testified, from practical experience, to the perfect simplicity of Mr. Stoker's method, as well as to the perfect accuracy with which it kept the bones in apposition and at rest. As an instance of its efficacy, he had seen a boy whose knee had been excised four days before, sitting up in bed without suffering the least pain—a fact which, under previous conditions of excision of the knee, would be regarded as a phenomenon. He was dissatisfied with the silver wire suture, as calculated to work its way to the surface. Some days ago he took out from the knee of a child a silver wire which he had put in a year before. The simple method of placing the limb between two splints made of hoop-iron, bound with a flannel bandage, turned out exceedingly well. He concurred in the importance of keeping the wound as dry as possible, and also with Mr. Stoker's experience of Esmarch's bandage. Drainage through the popliteal space was most desirable, as that is a pocket in which blood and serum collected. He had tried Neuber's method of tucking in tongues of skin, but though it served the purpose, the ultimate result was not as satisfactory as he would wish. Primary union was also a desideratum. He, however, dissented from the doctrine of Championnière, writing in the *Revue de Chirurgie*, that when suppuration was established amputation should ensue. Last year he had under treatment a girl whose history and condition were so bad that, with the consent of her parents, he determined to amputate; but in the delay in obtaining their consent, her condition ran down till she was merely skin and bone, and she would not endure the operation. Meanwhile he performed twelve operations, opening abscesses, sinuses, and scraping away gelatinous growths wherever they appeared, and she then took a change for the better and ultimately went to the country, fat and plump, with a sound knee. With regard to the general result in such cases, he did not share the gloomy view of Mr. Croly. On the contrary, he felt proud of the results of excision in Dublin. In forty excisions of the knee by his colleagues and himself in the Richmond Hospital, he could not recall one

which was followed by death, and therefore the operation ought to be performed more generally than it was.

Mr. Stoker replied.—Suturing the bones with wires he never saw do anything but harm. The reason was obvious, from the force necessary in twisting the wires to form a suture, and the readiness with which the bone tissue gave way; but moreover, he had a rooted objection to putting metallic bodies into a wound and leaving them there. Leaving silver wires in the body was a fad of the day. Where thorough dissection was performed, and the points which he had emphasised in his paper were observed, there was a good chance of immediate union. He left an angle of the wound open, so that any discharge collected might find its way out into the dressing. In excision of the knee he had found a discharge on removing the dressing; but it did no harm, the pus being, as a rule, perfectly free from smell, even where it had undergone alkaline decomposition and became so tenacious as to be drawn out in strings. No doubt, bending of the limb occurred in many cases, and a support, as suggested, was desirable. He suggested the use of a chisel instead of a saw for removing the ends of bone, as avoiding the creation of bone dust, and stated that he had employed it in one case with great advantage.

The Section adjourned.

MEDICAL SECTION.

President—James Little, M.D.; President of the King and Queen's College of Physicians.

Sectional Secretary—A. N. Montgomery, M.K.Q.C.P.

Friday, February 25, 1887.

The President in the Chair.

An Outbreak of Diphtheria—Two Cases of Purpura.

Dr. Mouillot, of Gorey, read a short account of an outbreak of diphtheria which occurred in the female school of the Gorey Workhouse. [It will be found in the Number of this Journal for April, 1887, Vol. LXXXIV., page 352.] Dr. Mouillot also read notes of two fatal cases of purpura hæmorrhagica. One case died in a few days from weakness of the heart, producing œdema of the lungs. In this case the vascular depression was marked from the first, the pulse being only 50 and very weak. The second case was remarkable from the difficulty of restraining incessant bleeding from the gums. Even the strongest local applications had only momentary success. The patient died, after seven weeks' illness, from cerebral hæmorrhage.

Mr. Frazer, having seen a good many cases of diphtheria, could only satisfy himself that two sterling ones had any connection with bad drainage. He once saw a child suffering from a severe attack. That anything was wrong with the drainage was denied; but three months afterwards the floor of the room in which the child lived having been ripped up, a foul sewer was discovered. The second case was also that of a child, who had been in the habit of playing beside a filthy water-butt. The child infected its cousin with malignant diphtheria, and the cousin rapidly died. Others of the family were attacked and recovered; but the nurse who took charge of the infant, putting the feeding-tube into her own mouth, got diphtheria, and though not of a severe type, she died of paralysis of the heart resulting from it. All these cases were traceable to the offensive water-butt. Paralysis seemed to be constituent to a fatal termination.

Dr. A. W. Foot recalled the fact that the outbreak of diphtheria in the Schloss at Hesse-Darmstadt, resulting in the death of the Princess Alice and three of her children, was traceable to bad drains. But, as distinguished from membranous sore throat, real diphtheria was not as common as many believed. It comprised five conditions—(1) early and remarkable swelling of the lymphatic glands of the neck; (2) extreme fœtor of the breath; (3) albuminous urine; (4) subsequent paralysis in some shape or other, either confined to a strabismus, or involving the four limbs, or still worse; and (5) nearly all, or at least 50 per cent., had a fatal result.

Dr. Finny agreed with Dr. Foot that genuine diphtheria cases were few and far between, and therefore with Dr. Mouillot as to the great difficulty in diagnosticating diphtheria, not only during the sore throat and immediate fever, but also during the subsequent course, the crisis and paralysis. There were many cases attended with exudations of the throat which were not of the true diphtheritic nature. Pellicles of membrane, when formed in the ordinary membranous sore throat, were readily removable, not to be formed again for ten or twelve hours; whereas in true diphtheria these would reappear till the usual time of resolution—the seventh or tenth day. To expect albuminuria in every case was straining the point too much. Diphtheria might occur as recognised by the fever, the prostration during its course, the subsequent paralysis, and the prolonged period to convalescence; and yet many of those cases existed without much local demonstration in the throat. The tendency was to look on diphtheria as a disease with a membrane, the derivation of the word signifying a leathery coat. Diphtheria was a constitutional disease with local manifestations, and physicians were too much inclined to look for the local manifestations before coming to a positive opinion. Stimulants and good food from the start gave the patient the best chance. There was a difference between croup and diphtheria.

Dr. R. A. Hayes said that he could not agree with Dr. Finny as to

the distinction between diphtheria and croup; and the case that he had mentioned was a very strong proof against his contention, as the gentleman, who undoubtedly suffered severely from diphtheritic paralysis, had caught the infection from a child suffering from what would be considered by dualists as a typical attack of croup.

Dr. Duffey considered that Dr. Mouillot had conclusively demonstrated that the epidemic of sore-throat which he had recorded was due to imperfect sewerage. But he did not think that it had been so conclusively proved that the affection was diphtheria. No doubt, there were ordinary cases of sore throat due to imperfect sewerage. Dr. Mouillot had touched lightly on some of the symptoms, and it was a pity he was unable to examine the urine as one of the most important factors in diagnosticating diphtheria. The number of recoveries was remarkable. Having seen diphtheria at home and abroad, he found the mortality from true diphtheria was most alarming. But every case of sore throat, with membranous exudation, was not to be set down as diphtheria. True diphtheria was indicated by constitutional symptoms, and by the sequelæ rather than by the mere local manifestations.

Mr. Doyle mentioned that he had a patient who, having seen an intimate friend immediately after death from purpura, had ever since been subject to annual attacks of purpura about this time of year, and that one severe attack was followed by paralysis. As to treatment, 40 gr. doses of acetate of lead three times a day had proved successful.

Dr. Pratt, having been himself attacked with purpura four times, could tell whether the attack was going to be severe or not by the height to which the spots came out. In an ordinary attack, the spots appeared up to the knees; in a severe attack, up to the waist, some of the spots being as large as a shilling. Five-drop doses of turpentine three times a day cured him in three or four days.

The President said his observation of diphtheria accorded with Dr. Foot's in enabling him to set down the percentage of mortality as at least 50 per cent. He had been disposed also to limit true diphtheria to those cases having the four signs present which Dr. Foot had enumerated; but Dr. Mouillot's cases did not present those four characteristics, and yet the fact that they occurred together, followed by paralysis, indicated true diphtheria. Hence it appeared there might be diphtheria, followed by paralysis, without the false membrane; or, on the other hand, a membrane presenting all the appearances of being diphtheritic without being true diphtheria. Albumen in the urine was a very important characteristic. He could recall no instance in which the examination of the urine did not prove its presence; but there might be albumen in the urine in cases of sore throat, too. For three weeks he watched a child with a patch of apparently diphtheritic membrane on the throat; but from the absence of constitutional symptoms, and having regard to the

child's recovery without unpleasant sequelæ, he concluded the case was not one of true diphtheria. He regarded croup and diphtheria as distinct diseases. No doubt cases of laryngeal obstruction occasionally occurred in which the physician was unable to make satisfactory diagnosis. With regard to purpura, he had had a lady under treatment a couple of years ago, and not liking the entire responsibility, the lady being in danger of bleeding to death, he shared it with Mr. Edward Hamilton, who deftly stopped each bleeding point with perchloride of iron, and ultimately, with the aid of nourishment, iron, and turpentine, the lady recovered.

Dr. Mouillot, in reply, submitted that his cases demonstrated that diphtheria was not so fatal as was generally supposed. Recurrent purpura seemed to be confined to the skin; but the critical cases were those which were accompanied by hæmorrhage in the internal organs—for instance, a *post mortem* examination of a woman in Birmingham, which he had performed whilst Pathologist at the hospital there, revealed the Fallopian tubes full of blood.

Notes on Cases of Insanity.

Mr. John Molony read clinical notes of cases which he had grouped as fair types of "Fixed Delusions" occurring in various forms of mental disease, and cited in connection therewith the opinions of Clouston, Spitzka, Savage, and Mickel. [They will be found in the Number of this Journal for April, 1887, Vol. LXXXIII., page 333.]

Dr. Foot suggested that the dirt-eating propensities indicated either what the evolutionists described as the doctrine of reversion, being the return to a degraded state, or that the insane found in it some nourishing food or substance which supplied a want. They showed discrimination by taking the excrement fresh without waiting for fermentation, which was conducive to typhoid.

Mr. Conolly Norman remarked that the cases of fixed delusion lasting a length of time, and of an incurable character, presented the *malum signum* of hereditary taint. It was a frequent sign that the better classes afflicted with the delusion of persecution wandered about in an aimless way as if to escape it, while people of the lower orders proceeded to hit out. He did not agree as to the accuracy of the term "monomania," or that such cases were not to be classed as of monomania if under observation less than a year. Cases of fixed, organised delusion did not break down with the rapidity of those of mania and melancholia, which, if they did not recover, generally passed into imbecility, while those of fixed delusion remained in *statu quo* for a number of years. He concurred in Mr. Molony's general conclusion that there was no definite pathology of any form of insanity except acute delirious mania and general paralysis. Recent investigations of Dr. Charles Kaye Mills

showed a tendency to abnormality in cases of monomania or fixed delusion—namely, an alteration, so to speak, of the architecture of the brain, the fissures running together. Dirt-eating, in his view, clinically, was a perversion of instinct.

The PRESIDENT said there were cases of definite monomania which did not last a year, and were curable partly by medical treatment and partly by moral influence before drifting into an asylum, where they were generally incurable. Opium was of great value in soothing the brain when threatened with functional disturbance; while care on the part of friends, and suitable change of scene, often prevented delusions from being stereotyped. There were frequent cases where an appeal was wisely made to a man's own senses to trust himself to his friends and give up nursing a delusion.

MR. MOLONY, replying, said, with regard to the disgusting dirt-eating habit, the lunatics often went to the privies and helped themselves. He agreed that monomania was a misleading term of nomenclature; nor did he think there was true monomania. For instance, a man fancying himself a king did not act up to it, but wheeled a barrow or turned a mangle when his time came. Opium was a sheet-anchor in most cases, particularly of active melancholia.

The Section adjourned.

Friday, March 25, 1887.

The PRESIDENT in the Chair.

Prevention and Treatment of Disease.

DR. C. F. KNIGHT read the following note on the above subject:—A fever may abort at any time—spontaneously or by the administration of therapeutic agents. Acute articular rheumatism may be treated by one of seven plans—viz., alkaline, quino-alkaline, mint-water, salicylic acid and salts, salicin, chalybeate, and eclectic. Advantages of alkaline treatment—1st, rapidity of action; 2nd, absence of cardiac complications; 3rd, rapid defervescence. Quinine, an antipyretic and antiseptic, must be given with great regularity, and in sufficient doses to produce satisfactory results. A tolerance may exist. In 1883 the author gave the largest quantity of quinine ever recorded to one patient—viz., in 24 hours, 131·25 grains; five grains subsequently produced cinchonism. Temperature analogous to septicæmia; quinine may fail to reduce temperature, alkalies rarely do. The author believes that mint-water, salicylic acid and salts, and salicin, influence the disease because they are antiseptics. Cases where rheumatoid fibro-ankylosis of vertebræ and joints exists, are well treated with small doses of salicylate

of sodium, assisted by massage. As to the pathology of acute articular rheumatism, and other diseases, the manifestations may be due to organisms in the blood, which are destroyed by antiseptics, and cannot live in a strongly alkaline medium. Source of organisms—1. Outer world, through ingesta, or by gases inhaled. 2. May arise in digestive or respiratory tract, as by germs introduced, or coalescence of organisms, which separately are innocuous. Do normal digestive ferments ever give rise to morbid processes? Means of combating disease, dietetic, hygienic, and therapeutic—Farinaceous food causes a rise in temperature in febrile affections. Therapeutic agents to include—1. Abortives. 2. Inhalation of gases. 3. Antiseptics, as turpentine, in acute croupous pneumonia. 4. Rectal inflations of medicated vapours, which were advocated as a means of combating disease, fevers, phthisis, and cholera, in 1878. 5. Atomised liquids, a spray of a solution of cuchlorine, cooling and grateful, in fevers, and where thirst a prominent symptom. Best abortive for diphtheria, croup, mumps, and the exanthemata, is red iodide of mercury, prescribed in hospital in these diseases, since the commencement of 1884; dose, $\frac{1}{16}$th grain thrice daily in form of pilules, first dose a double one. Children bear this treatment well, in adults it may cause colic; if so, allay with an opiate, which increases action of mercurial. Opportunity for trying this treatment now offers in the present epidemic of scarlatina. The author requests physicians to adopt this plan, and to communicate the results of their observations to the Academy.

Mr. Doyle said, as regards contagious disease, his idea of preventive medicine up to the present was to isolate the patient under hygienic conditions; and as to aborting fevers, where the fever did not take its course, he suspected he was wrong in his diagnosis.

The President expressed his dissent from Dr. Knight's views as to the superiority of the alkaline over the salicylate treatment of acute rheumatism, and drew attention to the fact that some patients in rheumatic fever continue to suffer from the pains, no matter what drug is administered, until milk is excluded from their dietary.

Dr. Knight, in reply, urged the desirability of resorting to therapeutic agents, which appeared to act as abortives, instead of trusting solely to isolation. Where two or three cases of well-marked disease, which had run the ordinary course, occurred in a family, and the members of the same family exhibited similar symptoms, diagnosis could hardly be uncertain; and yet it was shown that in the latter supervening upon the use of abortives, the disease was cut short. He intended, as the result of his experience, especially the absence of cardiac complications, continuing the alkaline treatment; but there was a distinction between salicylic acid and salicylate of sodium, and he spoke of cases treated with the acid and not the salt.

Latent Typhoid Fever fatal through Cardiac Thrombosis.

Mr. A. Montgomery, Sectional Secretary, read a case, communicated by Surgeon-Major R. Harman, A.M.S., of latent typhoid fever, which proved suddenly fatal without the disease having been recognised during life. The patient, a dragoon of splendid physique, aged forty, was admitted to hospital for slight eczema of the left leg, which readily yielded to treatment. He never complained of any symptoms, abdominal or otherwise, except a slight cough, for which the usual remedies were applied; the temperature was taken on several occasions, both morning and evening, without finding any rise above normal. However, on the 16th day from his admission, after being up and about as usual, he vomited about a pint of fluid resembling coffee grounds, and expired immediately afterwards, being quite conscious and free from pain to the last. A *post mortem* made three hours after death revealed a dense fibrinous clot, of a pale amber colour, occupying the right auricle and ventricle, firmly adherent to the endocardium and tricuspid valves, and extending into the vena cava and pulmonary artery. The parietal and visceral peritoneum was covered with thick masses of recent lymph, and the peritoneal cavity contained about two pints of semi-purulent serum. Just above the ileo-cæcal valve the ileum, on the anterior free surface of the bowel, presented an oval open gangrenous ulceration, about three inches in length and half the circumference of the bowel in breadth, destroying all the coats of the bowel; and although opening freely into the peritoneal cavity, there was no extravasation of the intestinal contents. There was another gangrenous patch about six inches higher up, and Peyer's patches exhibited every stage of the disease.

Dr. Finny said the case brought forward by Surgeon-Major Harman was one of great interest and rarity. In enteric fever, until the *post mortem* examination was made, it was hard, if not impossible at times, to give an accurate diagnosis, and sometimes during life the ulcerating process may advance unnoticed until marked by a gush of hæmorrhage. The present case revealed an interesting clinical fact that the patient had marked pathological lesions of several hours', if not days', duration, without having presented any subjective symptoms. No doubt there were instances of patients with peritonitis walking to hospital, but it was unusual that a man should be up and about, and yet suffering from such extensive disease as in the present case. He asked had there been an examination of the mesenteric glands. The softness, size, and colour were of great help in a pathological diagnosis. There was no evidence that death was caused either by thrombus of the heart or embolus of the pulmonary arteries. The action of the peritoneal inflammation, as it became developed, produced weakness in an already fatty heart; and the clot found in the right ventricle was really the result of a failing heart in the death-agony, and not the cause of death.

Dr. John Wm. Moore concurred in the conclusion that the pathological appearances in the intestine were those of enteric fever. From the advanced state of the disease in Peyer's patches, and the gangrenous condition described, latent peritonitis—due to the extension of inflammation from the base of some of the ulcers—had probably been going on for some time, and perforation occurred, not as a cause of peritonitis, but subsequent to the presence of a certain amount of peritonitis, and thus was brought on the heart's failure, accelerated by the exertion of walking about. The condition of the lung showed that pulmonary embolism was not the immediate cause of death, the pathological results of pulmonary embolism not being present. He agreed with Dr. Finny that it was probably heart failure that led to the fatal result.

Dr. Duffey said that his reading of the case was that death was due to simple collapse, the result of perforation of the intestine—a view which was borne out by the history of the case. There was nothing in the lung to suggest that death should be attributed to pulmonary thrombosis. Cardiac thrombosis was an uncommonly rare lesion. He found only one case reported in the current literature.

Mr. Foy indicated that a description of the thrombus would settle the point as to whether it was *ante*, or *post*, *mortem*?

Mr. Doyle inquired how and by whom the temperature was taken.

Dr. Knight said the case presented the characteristics of general septicæmia, of which enteric fever might be regarded as a variety; but the enlargement of the viscera and the intestinal ulceration did not constitute sufficient evidence of its being one of true septicæmia. In gynæcological cases adhesions were found without any history of severe attacks of pain or serious inconvenience to health.

The President said that he considered this case one of typhoid fever, but it was rare indeed to have such a normal temperature and an entire absence of severe symptoms before the fatal termination.

Surgeon-Major Harman, in reply, said the temperature was taken by the ward-master, an intelligent non-commissioned officer, about a dozen times, by means of the ordinary clinical thermometer, in the axilla, and it was never above 99°. There was softening of the mesenteric glands. The clot found in the heart was of a pale colour, and firmly adherent to the endocardium.

The Section then adjourned.

OBSTETRICAL SECTION.

President—A. V. Macan, M.B., M.A.O., F.K.Q.C.P.
Sectional Secretary—Andrew J. Horne, F.K.Q.C.P.

Friday, March 4, 1887.

The President in the Chair.

Exhibition of Specimens.

Dr. Mason exhibited ovaries removed for menorrhagia.

The President showed a two-headed child which had been delivered without artificial assistance—one head came first in the delivery, then the breech, and then the second head. He also showed a fibrous tumour which he removed from a woman nearly forty years of age.

Double Vaginal Orifice.

Mr. William Frazer communicated the following case of a rare form of double vagina :—

I attended a lady some time since who consulted me about the sixth month of her pregnancy; she had previously borne several children, with natural and easy labours, but for upwards of eight years before coming under my observation had ceased to conceive. She complained of an inconvenient swelling of the labia, which she thought was caused by a varicose condition of the veins, as the veins of the lower limbs were also swollen. This induced me to examine her with carefulness. I noticed that a projection about the bulk of a small apple sprang from the left side of the vagina, of dark purple colour, and consisting in great part of swelled veins. However, a closer examination detected that it was adherent only above and below—in fact, it constituted a perfect partition, extending upwards into the vagina for about an inch and a half; on one side was the usual orifice in the clitoris and urethra, and on the other a miniature opening of a smaller but well-defined second passage. This supplemental vagina was quite unknown to the patient, who had never suspected its existence. It was capable of distension until two fingers could pass in; above, it terminated in the vagina common to both passages, and the uterus was perfect and normal. Delivery came on at its usual time, and was completed, as it always had been, without difficulty and by the larger passage, the septum lying to one side like a valve.

In the course of a few months I obtained permission to examine the condition of parts. As all trace of swelling and varicose veins had passed away, this presented no difficulty. The septum in its structure was similar to the labium, and like it studded with the usual hairs; the natural orifice had its urethra, clitoris, and the lesser labia of small size; the supplemental opening had minute but distinct lesser labia, and a

distinct fourchette ; there was no trace of clitoris ; the vaginal orifice was perfectly formed and surrounded by a strong and distinct sphincter muscle. There was nothing to prevent this passage being used for intercourse.

The ordinary forms of double vagina—septum at upper part of a vagina and double uterus in various modifications—are all well known. This peculiar condition of a single vagina and perfect uterus above, and a septum in the double orifice, is, I believe, very seldom noticed—indeed I have failed to find any record of such condition.

The PRESIDENT observed that if there were separate nymphæ to each orifice the case would be a rare one. The most uncommon form of malformation was when the septum went up the entire way.

MR. FRAZER said there was a distinct and separate sphincter to the second vagina.

Dystocia caused by Hydrocephalus and Pelvic Tumour.

DR. PUREFOY narrated a case seen by him in consultation with Mr. Allen, in which the patient, a multipara, became profoundly prostrate from the suffering due to long-continued but ineffectual labours. The os was found largely dilated, encircling a large mass which careful examination showed was a hydrocephalic fœtus ; below this, posteriorly, was found an oval tumour very movable and apparently pediculated—this was being driven down before the presenting part during each pain. With considerable difficulty this was pushed up and an opening made in the enormously-distended scalp, giving exit to several pints of clear fluid. Even in this collapsed condition the head was so large that it was found necessary to complete delivery with the forceps. When dealing with tumours thus obstructing delivery, if there is reason to believe their contents are fluid, the relative advantages of tapping them through the vagina or through the rectum deserve our particular consideration.

DR. ATTHILL said he thought the tumour and the hydrocephalic child were mere coincidences. Of course they increased the difficulty of labour, but not the danger of the case. The question was how to deal with a tumour which could not be pushed upwards. His experience was, that it was wonderful how these tumours would get out of the way, and how little the patient suffered from their presence. He should have the greatest hesitation in tapping such tumours *per vaginam ;* he thought such treatment extremely risky, because there was a danger of puncturing the vaginal wall.

DR. BYRNE remarked that where the tumour was solid the difficulty of the case was increased.

MR. LANE asked was the child in Dr. Purefoy's case alive at the time of the operation ? If it were dead there would have been no difficulty about lessening the size of the head by puncturing it.

The PRESIDENT said that in a bad case of hydrocephalic head, vaginal

examination alone should not be depended on, as the head could be seen through the abdominal walls. The process of pushing up a tumour required a good deal of time, and was uncertain as to its results; if the child were dead, the operation would be made easier by perforating the head. It was not easy to tell whether a tumour was solid or fluid, because a fluid tumour was sometimes made hard by being jammed into the pelvis, and its true nature could not be ascertained without using an aspiration needle. If the tumour were fluid he would have no hesitation in aspirating, provided he was able to perform the operation antiseptically. In the case of a solid tumour it was different, especially when the medical man was called in late, because then the tumour might have undergone a crushing which would have rendered it liable to changes that would make it dangerous if pushed up. In a large majority of cases the uterus would pull the tumour out of the pelvis. If the uterus was contracting over the child and the head could not go down, the fundus would pull at the cervix and hoist it up further and further out of the vagina. If the tumour was fixed in the cervix and the head could not go down, the fundus pulled the tumour up out of the pelvis. That explained the success with which attempts were made to press fibrous tumours out of the pelvis.

Dr. Purefoy, in reply, said the main point of his paper was as to whether the operation should be performed through the vagina or through the rectum. With proper antiseptic precautions the operation was one attended with no danger. He adhered to his belief that the course of endeavouring to replace the tumour before the size of the head was diminished was the correct one. If he had first allowed the fluid to escape from the head, the latter would have been driven down into the pelvis, and would have become firmly wedged in the hollow of the sacrum, and its reposition would have become impossible; and after the head had been collapsed by the removal of a large quantity of fluid, and the tumour had been replaced, it would have been very difficult to apply a forceps. As to whether the child was alive or not he expressed no opinion; but the likelihood of its being alive might be judged of from the facts that the woman had been for eight or nine hours in a state of horrible suffering before he saw her, and that the child's head contained nearly five pints of fluid. The probability that it was alive was not very great, and the probability that it would have survived aspiration was exceedingly remote.

Vesicular Degeneration of the Chorion.

Dr. Byrne submitted a case of vesicular degeneration of the chorion, sent by and described in the following letter from Dr. Hayes, of Tralee:—

"Denny-street, Tralee, Feb. 14th, 1887.

"Dear Dr. Byrne,

"As I know you take an interest in gynæcological cases, I send you particulars of a case if you should consider it sufficiently interesting to

bring it before the Obstetrical Section. It is a case of vesicular or hydatidiform mole occurring in a woman, *aged sixty years*, as she states herself. I send it to you. I have covered it over with a saturated solution of boroglyceride, but I fear the shaking in transit will burst the vesicles. It was covered over with them—some as large as a bunch of grapes, others the size of a small pea, or smaller. The case was shortly this :—A few days since I was sent for to see a Mrs. C., the wife of a labourer, aged sixty years, rather a strong, healthy-looking woman. She was attended for some days previously by the dispensary doctor for vomiting and uterine hæmorrhage. On examination externally I found the uterine tumour about the size it would be in a woman between five and six months pregnant; internally the os was sufficiently dilated to admit the finger, and I could detect soft globular masses. She stated it was seventeen years since her last child was born; she had no miscarriages since. She menstruated regularly up to nearly four months since, when her courses ceased. She was under the impression they had ceased in the natural course from her age, but they came on again after three months and continued for the past month without ceasing. She was becoming exhausted, and vomiting set in. I gave her liq. ergot (Long's, which I consider reliable and uniform) in ʒi. doses every hour; after six or eight doses uterine contraction set in, and the whole thing came away *en masse*. She felt immediate relief, and is now quite restored, all hæmorrhage having ceased. I examined the mass carefully, but could find no trace of a fœtus; it was three times as large when passed as it is now, as the vesicles were large, filled with clear fluid, some pink-coloured.

"This case seems to me interesting, it being the first I have seen, and occurring in a woman sixty years of age, whose menses continued so long and never had any irregularity or illness; but, I suppose, a good many such cases are met with in Dublin.

"Hoping you will excuse this trouble,

"Yours truly,

"J. R. Hayes."

Dr. Byrne added that the facts were quite sufficient to warrant the conclusion that the case was one of vesicular degeneration of the placenta.

Dr. Dill said that she was considerably under sixty might be inferred from the fact that she had menstruated regularly up to the period when she became pregnant.

Dr. Foot did not think the term "hydatid" applicable to the present specimen at all.

The Section then adjourned.

PATHOLOGICAL SECTION.

President—Walter G. Smith, M.D.
Sectional Secretary—J. B. Story, F.R.C.S.I.

Friday, March 11, 1887.

The President in the Chair.

Specimens of Malignant Disease of the Stomach, Pancreas, Liver, Kidney, &c.

The President showed specimens of malignant disease of the stomach, pancreas, liver, kidney, &c., taken from a young man, aged twenty. The patient was admitted into Sir Patrick Dun's Hospital on January 11th, and died in great agony on January 22nd. Two years previously he was attacked with heartburn, retching and vomiting, and epigastric pain. Within the last two months he had become much worse, had lost flesh, and slight jaundice set in a few days before admission. The liver was enlarged, the urine was scanty, high-coloured, and contained bile pigment. With acetic acid *alone, in the cold*, it yielded a precipitate insoluble in excess of acid, or by heat, and apparently of albuminous nature. The temperature was slightly pyrexial until the day before death. At the *post mortem* the stomach was found to be greatly distended; pylorus constricted, and its walls dense and white; a mass of new growth in edge of falciform ligament, and one or two nodules on the liver; walls of gall-bladder invaded by the neoplasm; cavity small, containing green mucus; cystic duct occluded; dense mass of new growth involving stomach, pancreas, right kidney, &c., and extending back to the spine. Left kidney healthy upon section; right kidney invaded by neoplasm; portal vein pervious; abdominal aorta constricted by surrounding mass of new growth; right upper surface of diaphragm studded with white nodules. An immense number of round, flattened nodules all over each lung, and also internally, radiating from root. Heart and pericardium normal. The disease probably originated in the stomach, and appeared to be carcinoma, although some of the microscopic sections rather suggested sarcoma.

Dr. J. H. Scott said that some days ago he examined a section cut from a diseased breast which he found to be undoubtedly carcinomatous; yet that section presented characters extremely like those of one of the specimens at present under the microscope. In both cases the cells grew in strings, somewhat like the arrangement of tendons. Here and there, in both cases also, were small growths of cells, so that the sections were almost identical. He had very little doubt that the present case was one of carcinoma.

The President, in reply, directed attention to the several cuttings under the microscope on the table. It would be seen that the section

from the liver was beautifully mottled. The section taken from the pylorus exhibited a large amount of healthy gland tissue; but there were also one or two large nests of epitheliomatous cells. In another slide would be seen a mass of large, irregularly-shaped cells, ranged partly in parallel groups and partly in a sort of cell nest. Dr. Purser, who had examined the specimens, felt some hesitation in naming the cells, but was of opinion that, though they looked like sarcoma, the case was, on the whole, one of carcinoma.

Fibro-Sarcoma of the Orbit.

Mr. Swanzy exhibited a fibro-sarcoma, about the size of an ostrich's egg, which he had successfully removed from the orbit of a boy, aged eleven years, and which had a history of four and a half years. The eyeball had become dislocated upwards under the upper lid, by which it was completely covered, and sat on the top of the tumour, but retained its consensual motions to a slight extent, notwithstanding its very abnormal position. The palpebral opening was much distended, and through it was seen the surface of the new growth. The eyelids were increased in height and width so as to cover the very large tumour, except at the palpebral opening. The surface of the tumour, as felt through the eyelids, was quite smooth. After removal, the part of the tumour which had occupied the orbit was found to have a perfectly smooth, serous, membrane-like surface, while the walls of the orbit were likewise perfectly smooth, their periosteum presenting a tendinous, shiny surface. The tumour had no attachments to the orbital walls, and had evidently originated in the retro-orbital connective tissue. It was attached to the margin of the orbit all round by a fibrous ring or band, which was the only structure necessary to divide during the operation, with the exception of the inner and outer commissures of the eyelids. Owing to the presence of the tumour, the orbit had become much increased in size, measuring 7 cm. vertically, 6·5 cm. horizontally, and 4·5 cm. in depth. The patient, who was exhibited, made a perfectly good recovery.

Mr. Story said through the kindness of Mr. Swanzy he had an opportunity of seeing the case before the operation was performed. On the brilliant result of that operation Mr. Swanzy was certainly to be congratulated. He (Mr. Story) and other occulists who saw the case were at first of opinion that the tumour was a sarcoma of a fibro-cystic character, and he was surprised afterwards to find that it was purely fibrous and without any cysts. The enlargement of the orbit was very great. He had seen as great enlargement in other similar sarcomatous growths, but he never saw a sarcomatous tumour of the orbit where it was possible to enucleate the tumour, in such a way as had been done in the present case, from the orbit, and at the same time to leave a perfectly sound cavity with sound walls behind. Such tumours frequently had

extensions protruding through fissures in the back of the orbit, or else had not originated in the orbital cavity at all, but had made their way into it from other places, and when they reached the orbital cavity underwent their greatest development. It was most encouraging to gentlemen practising ophthalmic surgery to know that such a tumour as the present had been satisfactorily removed, and that the case had turned out so well. Neither he nor anyone else who saw the case expected that the operation would have been performed with the facility that it was.

Sarcoma.

Mr. M'Ardle read a paper on sarcoma, detailing cases which showed the deterioration of the different tissues of the body, apparently as a result of the disease. He noticed in all his cases a great diminution of the red corpuscles of the blood, and a slow and incomplete coagulation of that fluid. In these cases he met with spontaneous fractures, and on examining the bones he found them brittle, and the red marrow in a state of fatty degeneration. In seeking an explanation of the decrease of red corpuscles in the blood, he concluded that the destruction of the red marrow of the bones led to a diminution of their manufacture. He explained the emaciation of the patient by the lessened oxygenating power of the blood, which, in some of the cases, looked like serum, so poor was it in corpuscles.

In reply to the President, Mr. M'Ardle stated that in all the cases microscopic examinations of the tumours were made. In every case of sarcoma that had lasted above three months the patients were perfectly blanched. The central portions of the large bones, where there was no red marrow, were not much affected.

Dr. Scott asked how much diminution of the corpuscles occurred? Exact information on that point might supply a means of diagnosis in suspected cases. It was well known that leuco-cells which originated in red marrow could be distinguished from those which originated in other parts of the body. Mr. M'Ardle had mentioned cases in which the red marrow was gone. What evidence had he of diminution in the numbers of the cells?

Mr. Wheeler said that in many instances he had seen fractures of the shafts of bones occur in places where they were affected with sarcoma. In all these cases the bones were softened or in a state of fatty degeneration at the place of fracture.

Mr. Story asked what evidence was there of diminution of the red corpuscles in the places mentioned? He did not catch by what means Mr. M'Ardle proved that there was any defect in the red blood. An anæmic appearance in the patient was not enough to prove that the quantity of red corpuscles in his blood was not normal.

Mr. M'Ardle, in reply, said that in practical surgery there were not

many opportunities of making microscopic and other examinations. He did, however, make microscopic examination of the blood of these patients; but he had not time to attempt an accurate enumeration of the red blood corpuscles. The appearance of the blood and the result of the microscopic examinations showed that the blood was poor in red corpuscles.

Trephining for Epilepsy.

Mr. W. I. Wheeler gave a description of a calvarium and brain after trephining for epilepsy, and exhibited specimens.

Mr. Story asked what was the use of trephining for epilepsy if the seat of the affection were, as Mr. Wheeler had said, the medulla oblongata or the pons. Epilepsy was interesting from an ophthalmic point of view. It was known that after epileptic seizures the patients frequently had either transitory or permanent affections of their field of vision; and it was a curious fact that these affections took the form of concentric limitations of the fields of vision of both eyes. It was well known to those present that when a patient suffered from a lesion at one side of the brain, whether caused by a tumour or otherwise, his visual apparatus was damaged, but the effect produced was that there was a loss by both eyes of one half of their field of vision, the halves lost corresponding to the visual centre on the side of the brain affected. But after epileptic seizures the limitation was concentric, though also affecting both sides; and the explanation of this, which had been put forward, assumed that the seat of the epilepsy was not in the medulla or the pons, but in the cortical centres. By a process of reasoning, too long to enter into, it had been shown that it was capable of demonstration that a functional lesion of the two visual centres, unequally accentuated on the two sides of the brain, would have the effect of producing this concentric limitation of the fields of vision of both eyes. It would be very desirable for pathological purposes that in epileptic cases the fields of vision could be tested. His only knowledge of this matter was derived from the literature of the subject.

Dr. Knott said he would like to know something of the condition of the patient both before and after the operation, and also whether he complained of any visual disorder. Also, did he get the full benefit of the antiseptical precautions recommended by Dr. Ferrier?

Mr. Wheeler, in reply, said there was nothing wrong with the patient's vision, except that he was a little short-sighted, which, he said, he had been all his life, even when he had no fits, while he was away in the colonies, he being at that time between 17 and 21 years of age. The reason why he (Mr. Wheeler) trephined at the place he did was that the patient had pain there, it being the spot where his head had struck a table while he was a boy. Pain was always produced by pressure on

that spot, and the pressure also made the patient feel as if he was going to have an epileptic fit. It was a common sense rather than a scientific treatment; and he did not think of the medulla or the pons Varolii, but only proceeded on the assumption that the pressure of a piece of bone was the cause of the epilepsy, and the result proved that it had a considerable amount to do with the epilepsy, for after the removal of the bone the patient had no more fits of epilepsy. As to Dr. Knott's question, all the antiseptic precautions were used with the exception of the spray, which he did not believe in.

The Section then adjourned.

WAKING NUMBNESS.

Dr. Andrew H. Smith, in the April number of *The American Journal of the Medical Sciences*, describes, under this title, a heretofore undescribed neurosis, and reports four cases—from a study of which it appears that the numbness is something added to the normal condition. There is no paralysis of motion or sensation, the tactile sense is unimpaired, there is no change in the temperature of the affected part, the surface is not blanched or mottled, there is no tenderness on pressure. These characteristics separate this condition widely from those known under the names of night-palsy, local asphyxia, digiti mortui, Raynaud's disease, erythromelalgia, and from the various paræsthesias and acroneuroses heretofore described. Doubtless the conditions upon which the numbness depends are present during sleep, but the sensation is not sufficiently strong to arouse the sleeper, and he first becomes conscious of it when awakened by some other cause. The cause of this condition is probably central, since the effect is usually symmetrical. It would seem to be connected with the lowering of the circulation which takes place during sleep, and to disappear when the circulation returns to the waking condition, whether the return be spontaneous, or the result of rubbing, &c. As to the latter, it is doubtful whether it has any other effect than that upon the general circulation which the muscular exertion would necessarily produce. As for treatment, in the only case in which the condition existed by itself, and independently of more serious conditions, ergot, digitalis, strychnin, and aconite were tried at different times, but without result. The inconvenience produced by the affection was so slight that no treatment was carried out efficiently, so that even these negative results were of no value. In each of the other cases there was a diseased condition present, to which the numbness was subordinate, and which afforded the indications for treatment. In proportion as the treatment of the underlying condition was successful the numbness disappeared. If it be true that the cause is central, no local treatment is likely to be of service.

TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

SESSION 1886–87.

President—W. Whitla, M.D.
Hon. Secretary—Henry Burden, M.D., Q.U.I.

February 23, 1887.

The Treatment of Phthisis.

Dr. Wales read a brief paper on the treatment of phthisis, which, epitomised, reads thus :—The acute form was difficult to control. He had not found the new antipyretics equal in *duration of effect* to quinine, aconite, digitalis, and salicylate of sodium, which, in varying combinations, were certainly capable of doing good. In the ordinary chronic form of the disease he had come to regard *pure air* as the essential element of success in its treatment, and the best preventive of its development. To secure this, he considers, should be the great aim of the physician for his patient, but his recommendations require to be well considered. All circumstances concurring, a suitable sea voyage, under suitable conditions, he regards as best ; next the mountain tops in summer ; and in the periods of the year provocative of catarrh, such shelter as will afford pure air, equable temperature, and daily exercise. In the growing recognition of the great value of pure air, it would be unjust to the memory of Dr. MacCormac—its apostle—to fail in acknowledging his prescience, and the world's obligations to him in this particular. He (Dr. Wales) regarded the efficiency of the digestive organs as next in importance to the air breathed. It is almost constantly ignored. Patients with epigastric tenderness will be found on cod-liver oil, Fellows' syrup, and strong food, with complete forgetfulness of the pneumogastric termini, and reflex irritation. It is essential to remedy gastric irritation, if it exist, before *pressing* nutrition. This is best done by counter-irritation and solution of bismuth, morphin, and hydrocyanic acid, internally, the support for the time being milk with lime-water, white of egg whipped with double soda-water and milk, Valentine's beef-juice, *which is always retained*, and rice, corn-flour, or revalanta, with maltine. Gastric irritation being removed, the special remedies can be employed. As a counter-irritant and sedative combined, nothing is better than equal parts of liniments of iodine and belladonna. As an inhalant for the diminution of profuse expectoration and pus *carbolic acid has not been equalled*, only its use *should not be continuous*, as it undoubtedly brings on blood-globule-disintegration and albuminuria.

The mitigation of cough, when severe, should be effected by gentle and appropriate sedatives; the usual grape-shot cough mixtures employed seldom fail in doing harm. Night sweats are best met by supplying the patient with pure air, but if that do not suffice the oxide of zinc and belladonna pill will aid materially. The stomach being right, cod-liver oil does good, and its assimilation will be greatly promoted by 3–5 grs. of Fairchild's pancreatine. The hypo-phosphites have been much overrated, but they are useful, and are best given like chloride of lime and iron in glycerine. Hæmoptysis requires careful treatment. If the patient be not too weak salines and sedatives are best, and 10-drop doses of turpentine, as well as the inhalation of turpentine vapour, will generally do good, care being taken not to congest the kidneys. Dry cupping, counter-irritation, acetate of lead, gallic acid, and ergotin are effective likewise, but blood-clots in the air-cells and septic results therefrom have followed the latter, when used hypodermically, with suspicious frequency.

The Home Treatment of Consumption. By Robert Esler, M.D.

What I mean by *home treatment* is treatment of that class of the community who cannot afford change or residence abroad, as recommended by Dr. James A. Lindsay; who cannot take even a month at home health resorts; who have little opportunity for outdoor exercise, except on Sunday; and who are obliged from necessity to continue their occupation until they literally die in harness.

My claim to deal with this subject arises from the fact that I am responsible for the health of between two and three thousand of the operative class, who must live, and suffer, and die in their own homes, and who, as a rule, continue to follow their employment till nearly the end of their days.

In the various branches of the linen trade in Belfast there are some fifty thousand hands employed. Of factory workers alone there are thirty thousand. Of these a large percentage are found to have tubercle. Whether this arises from the nature of their occupation, their exposure to cold, or from inherited disposition, is a question not easily settled.

How much the tubercle bacillus has to account for in these cases is one of the interesting questions of the day. That heredity has much to do in the matter all are agreed; and that occupation and surroundings are large factors there can, I think, be no doubt.

It is generally admitted that the working population of Belfast is as well clothed, housed, and fed, as the average working population of most manufacturing towns; yet consumption is making sad havoc in mills, factories, and warerooms.

Treatment.—In the treatment of consumption, from my point of view, it will be unnecessary to pass in review the pharmacopœia in ordinary use, or even to mention the list of medicines commonly employed in the

treatment of symptoms and sequelæ. None of us, I suppose, have any faith in the curative effects of cough mixtures. It may be freely admitted that they are all objectionable, in that they sicken and depress, destroy appetite, and interfere with digestion. Cough must be quieted, however, and ten minims of liq. morphinæ will usually do this; but, unfortunately, we must bear in mind that the *patient* has to be treated as well as the *disease*, and that the popular palate has been educated up to the point of a hot, strong *mitrailleuse* mixture, containing half of all the known sedatives and expectorants in compatible solution. What branch of the profession is chargeable with this conquest I am not going to say, but I have a strong suspicion that it is to be found on the borderland between legitimacy and quackery. "A nice cough bottle" is, I am told, considered a master-stroke, even by some consultants, and the patient not uncommonly has a feeling of relief after a consultation and a few doses of the new medicine.

I find that often good results are to be obtained and sedative effects quickly produced from drinking a glass of hot water, and in the case of old people the addition of a little old whiskey and some sugar is unobjectionable. The application of counter-irritation, in the form of a mustard-plaster, is within the reach of all, and I question if we have any better method of relieving urgent symptoms. Treating symptoms is, however, like attending natural confinements—a practice in which all are masters, and nearly all specialists.

For our present purpose we shall drop out of our list of remedies the usual tinctures, liquors, and "vina," which have no curative effect, and ask the question—"Given a case of consumption, in an early stage, among the artisan or labouring classes, what can be done to prolong life and make the disease less distressing?"

Take the following case in illustration:—R. S., aged thirty, extensive tubercle in both lungs seven years ago; cough, hurried breathing, quick pulse, high temperature, night sweats, copious expectoration.

At first treated with ordinary and then with extraordinary mixtures, with the result of loss of appetite and great wasting.

As he was a man of more than average intelligence, I said to him that all we had been doing did not strike at the root of the matter, and advised the suspension of all expectorants and sedatives—recommended super-alimentation, cod-liver oil, and iron, with avoidance of night-air and undue exposure to cold.

This recommendation he readily adopted; the wasting became arrested, his strength improved, he soon returned to his work, and though in an enfeebled condition he attends to his occupation now as regularly as he did seven years ago.

In case of sleepless nights a little morphin, chloral, or a one-grain opium pill may be prescribed.

Quinine may be required occasionally for pyrexia and appetite, but for medicine proper a mixture containing Tr. ferri perchlor., pot. chlor., and spt. chloroform is by far the most useful in my practice.

That iron is absorbed and increases the red globules is generally believed, although Claud Bernard taught the contrary; but that iron has a beneficial effect in stimulating the gastric mucous membrane, and that its local action on the intestines in consumptive patients is also good, is a clinical observation of more value than any theory. According to Hösslin, if two young dogs are fed on the same quantity of milk, the one who has albuminate of iron added will gain additional weight.

Outside the pharmacopœia proper there are some important methods of medical treatment, and the first I would mention is—

Rest.—I do not mean resting the body; this is, I think, a mistake, but in affording rest to a weak lung much may be done to check the progress of disease, or to facilitate the process of repair—strapping the chest with either porous plaster, cut in stripes, or with Mead's tape plaster, nicely adjusted from spine to sternum, during the period of deep expirations. This frequently gives instant relief, and quiets an irritable cough by preventing undue expansion.

Inhalations.—Breathing the steam from boiling water, into which some of the terebene or antiseptic group of remedies has been introduced, is unquestionably one of the best methods at our disposal of applying medicinal agents and deriving their maximum therapeutic effects.

Any of the various inhalers may be used, or, in the case of the poorest sufferer, an ordinary jug will do very well.

Ol. pinus sylvestris I have found very useful in many cases, but a mixture of carbolic acid and tr. benzoin. co. seems to answer best. It has been doubted whether the tubercle bacillus is affected by any agent we can employ, but it cannot be doubted that by this method we can allay irritation, quiet cough, and, through the medium of the air breathed, produce a therapeutic effect on the morbid condition of the lung, resulting in a less offensive condition of the expectoration.

Gaseous Injections.—Several French physicians have tried the injection of sulphuretted hydrogen into the rectum. They say that it is readily absorbed, is a powerful antiseptic, and that, in being exhaled by the pulmonary and bronchial surfaces, it comes into immediate contact with the organisms of phthisis, and exercises excellent curative effects.

Feeding or *Cramming* in phthisis is advocated on the principle laid down in the Weir-Mitchell method of treatment for nervous affections.

In well-selected cases—*i. e.*, where the disease is confined to one lung, where the active extension has ceased, and where the patient is struggling towards the recovery stage—super-alimentation and massage may be adopted as a method of treatment likely to lead to good results.

Of the usefulness of this method in some cases of wasting recently

treated by me, I can only speak in the most commendatory terms, and I have knowledge of several consumptive patients who are now comparatively well, and who, but for super-alimentation, would have been with the majority several years ago. Massage is yet in its infancy; whether it will ever get into its teens remains to be seen. At present it is in high favour for nervous affections. I do not see why it should not be used in suitable cases to induce an increase of appetite in consumptive patients, where feeding is a necessity.

March 9, 1887.

Successful Ovariotomy at the Ulster Hospital for Women and Children, Belfast. By Robert Esler, M.D., M.Ch.

The first operation for removal of an ovarian cyst at the Ulster Hospital was performed by me on February 26th.

History.—The patient, twenty years of age, had been married for a year. Previous to her marriage she had observed her abdomen becoming enlarged. The growth became rapid subsequent to marriage, and on Oct. 30, 1886, she was admitted to hospital suffering from dyspnœa, for which she was tapped, and nine quarts of clear ascitic fluid were removed.

Diagnosis.—An ovarian cyst of the left ovary was now distinctly observed, and an operation recommended. To this the friends objected at that time, and the patient was taken home for Christmas.

Re-admitted on February 7th, 1887. An operation was now requested, as the abdomen had become very greatly distended.

In the meantime the patient had become anæmic and weak, besides having contracted a troublesome cough, with crepitus in apex of left lung, and bronchial râles in right.

Rest in bed, with nutritious diet, improved her condition.

The Operation—Complications.—Bichloride of methylene was the anæsthetic employed. The usual antiseptic precautions were used. Six members of the staff, four students, and a nurse were present.

The cyst was multilocular and had to be emptied by three separate tappings. Slight adhesions to the parietes and intestines were easily separated, but the great omentum was so firmly bound to the cyst wall that it had to be torn off, lacerating a network of vessels, which required to be tied. The pedicle was secured with strong silk—which had been boiled in carbolic acid—by the Staffordshire knot. Several quarts of ascitic fluid were removed from the abdomen, which was washed out with tepid water. Silver wire was used to secure the abdominal incision. A glass drainage-tube was inserted in the wound for thirty-six hours. Carbolic acid dressings were employed. The stitches were removed on the 14th day, and on the 21st day the wound was absolutely healed.

The patient was kept in hospital for another month, when she left, quite strong and well.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, May 21, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	April 30.	May 7.	May 14.	May 21.		April 30.	May 7.	May 14.	May 21.
Armagh -	5·2	31·0	10·3	20·7	Limerick -	31·0	32·4	28·3	18·9
Belfast -	19·7	26·5	21·6	23·5	Lisburn -	4·8	19·3	24·2	14·5
Cork -	27·3	18·8	14·9	13·6	Londonderry	7·1	21·4	28·5	12·5
Drogheda	29·6	29·6	38·1	50·7	Lurgan -	20·5	15·4	15·4	10·3
Dublin -	30·6	35·1	23·6	25·0	Newry -	52·7	10·5	24·6	14·0
Dundalk -	21·8	21·8	34·9	34·9	Sligo -	4·8	0·0	9·6	14·4
Galway -	23·5	30·3	26·9	16·8	Waterford -	16·2	23·2	16·2	16·2
Kilkenny	0·0	46·5	12·7	55·0	Wexford -	12·8	17·1	17·1	12·8

In the week ending Saturday, April 30, the mortality in twenty-eight large English towns, including London (in which the rate was 18·3), was equal to an average annual death-rate of 20·6 per 1,000 persons living. In Glasgow the rate was 24·8; and in Edinburgh it was 20·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 24·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in 9 of the districts to 7·0 in Newry—the 15 deaths from all causes registered in that district comprising 2 from diarrhœa. Among the 85 deaths from all causes registered in Belfast are 1 from measles, 1 from whooping-cough, 2 from enteric fever, and 1 from diarrhœa. One of the 42 deaths in Cork was caused by typhus; and the 23 deaths in Limerick comprise 1 from the same disease.

In the Dublin Registration District the births registered during the week amounted to 258—123 boys and 135 girls—and the deaths to 212—101 males and 111 females.

The deaths represent an annual rate of mortality of 31·3 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 30·6 per 1,000.

Twenty-seven deaths from zymotic diseases were registered, being 7 in excess of the number for the preceding week, but 3 under the average for the seventeenth week of the last ten years; they comprise 11 from measles, 1 from scarlet fever (scarlatina), 4 from whooping-cough, 2 from diphtheria, 1 from cerebro-spinal fever, 1 from ill-defined fever, 2 from enteric fever, 3 from diarrhœa, &c.

Thirteen cases of scarlatina were admitted to hospital, being 1 under the admissions for the preceding week; 7 scarlatina patients were discharged, and 47 remained under treatment on Saturday, April 30, being 6 over the number in hospital on Saturday, April 23.

Four cases of typhus and 7 of enteric fever were admitted to hospital during the week; 11 cases of the former and 15 of the latter disease remained under treatment in hospital on Saturday.

Twenty cases of measles were admitted against 6 admissions for the preceding week; 6 patients were discharged during the week; and 29 remained under treatment on Saturday, being 14 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered is 41, or 4 below the average for the corresponding week of the last ten years, and 10 under the number for the week ended April 23; 22 of the 41 deaths were caused by bronchitis, 3 by croup, and 9 by pneumonia or inflammation of the lungs.

In the week ending Saturday, May 7, the mortality in twenty-eight large English towns, including London (in which the rate was 18·9), was equal to an average annual death-rate of 20·9 per 1,000 persons living. In Glasgow the rate was 22·8; and in Edinburgh it was 18·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 28·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·3 per 1,000, the rates varying from 0·0 in Londonderry, Newry, Kilkenny, Drogheda, Wexford, Sligo, and Lisburn, to 8·7 in Dundalk—the 5 deaths from all causes registered in the last-named district comprising 1 from diphtheria and 1 from diarrhœa. Among the 114 deaths from all causes registered in Belfast are 1 from measles, 2 from typhus, 5 from whooping-cough, and 2 from diarrhœa. The 24 deaths in Limerick comprise 1 from typhus and 1 from diarrhœa;

2 of the 10 deaths in Waterford were caused by whooping-cough; and the 9 deaths in Galway comprise 1 from simple continued fever.

In the Dublin Registration District the births registered during the week amounted to 225—111 boys and 114 girls—and the deaths to 248—140 males and 108 females.

The deaths represent an annual rate of mortality of 36·6 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 35·1 per 1,000.

Twenty-three deaths from zymotic diseases were registered, being 4 below the average for the corresponding week of the last ten years, and also 4 under the number for the week ended April 30; they comprise 6 from measles, 3 from scarlet fever (scarlatina), 1 from typhus, 5 from whooping-cough, 1 from ill-defined fever, 3 from enteric fever, 3 from erysipelas, &c.

Thirteen cases of scarlatina were admitted to hospital, being equal to the admissions for the preceding week; 6 scarlatina patients were discharged, and 54 remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week.

Five cases of typhus and 3 of enteric fever were admitted; 13 cases of the former and 12 of the latter disease remained under treatment in hospital on Saturday.

Fourteen cases of measles were admitted to hospital, being 6 under the admissions for the preceding week; 14 patients were discharged, and 29 remained under treatment on Saturday, being equal to the number in hospital on Saturday, April 30.

Fifty-nine deaths from diseases of the respiratory system were registered, being 18 over the number for the preceding week, and 19 in excess of the average for the 18th week of the last ten years; they comprise 33 from bronchitis, 10 from pneumonia or inflammation of the lungs, 3 from croup, and 2 from pleurisy.

In the week ending Saturday, May 14, the mortality in twenty-eight large English towns, including London (in which the rate was 17·2), was equal to an average annual death-rate of 19·7 per 1,000 persons living. In Glasgow the rate was 23·6; and in Edinburgh it was 23·7.

The average annual death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 22·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in Waterford, Newry, Kilkenny, Drogheda, Wexford, Sligo, Lurgan, and Armagh, to 6·7 in Galway—the 8 deaths from all causes registered in the last-named district comprising 2 from typhus. Among the 93

deaths from all causes registered in Belfast are 2 from measles, 4 from whooping-cough, 1 from diphtheria, and 2 from simple continued fever. One of the 23 deaths in Cork, and 1 of the 5 in Lisburn, resulted from enteric fever. Of the 16 deaths in Londonderry 1 was caused by typhus and 1 by diarrhœa; and the 8 deaths in Dundalk comprise 1 from diphtheria.

In the Dublin Registration District the births registered during the week amounted to 188—88 boys and 100 girls—and the deaths to 165—72 males and 93 females.

The deaths represent an annual rate of mortality of 24·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 23·6 per 1,000.

Twenty-one deaths from zymotic diseases were registered, being 9 below the average for the corresponding week of the last ten years, and 2 under the number for the week ended May 7; they consist of 9 from measles, 2 from scarlet fever (scarlatina), 1 from typhus, 4 from whooping-cough, 1 from cerebro-spinal fever, 1 from enteric fever, 2 from diarrhœa, and 1 from dysentery.

Seven cases of scarlatina were admitted to hospital, being 6 under the admissions for the preceding week; 12 scarlatina patients were discharged, 2 died, and 47 remained under treatment on Saturday.

Three cases of typhus and 6 of enteric fever were admitted during the week; 12 cases of the former and 13 of the latter disease remained under treatment in hospital on Saturday.

Fourteen cases of measles were admitted to hospital, being equal to the admissions for the preceding week; 15 patients were discharged, 1 died, and 27 remained under treatment on Saturday.

Deaths from diseases of the respiratory system, which had risen from 41 in the week ended April 30 to 59 in the following week, fell this week to 32, which number is 11 below the average for the corresponding week of the last ten years; the 32 deaths comprise 21 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, May 21, the mortality in twenty-eight large English towns, including London (in which the rate was 19·0), was equal to an average annual death-rate of 20·3 per 1,000 persons living. In Glasgow the rate was 24·5; and in Edinburgh it was 15·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·5 per 1,000, the rates varying from 0·0 in nine of the districts to 13·1 in Dundalk—the 8 deaths from all

causes registered in that district comprising 2 from diphtheria and 1 from enteric fever. Among the 101 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 3 from whooping-cough, and 2 from diarrhœa. The 21 deaths in Cork comprise 1 from enteric fever and 1 from diarrhœa; the 7 deaths in Waterford comprise 1 from simple continued fever; 1 of the 13 deaths in Kilkenny resulted from typhus; and 1 of the 3 in Sligo was caused by enteric fever.

In the Dublin Registration District the births registered during the week amounted to 170—94 boys and 76 girls—and the deaths to 172—74 males and 98 females.

The deaths represent an annual rate of mortality of 25·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 25·0 per 1,000.

Twenty-five deaths from zymotic diseases were registered, being 4 over the number for the preceding week, but 5 under the average for the twentieth week of the last ten years; they consist of 8 from measles, 5 from scarlet fever (scarlatina), 3 from typhus, 6 from whooping-cough, 1 from cerebro-spinal fever, 1 from enteric fever, and 1 from diarrhœa.

Forty-four cases of measles were admitted to hospital, being 30 over the admissions for the preceding week; 13 measles patients were discharged, 3 died, and 55 remained under treatment on Saturday, being 28 over the number in hospital at the close of the preceding week.

Eight cases of scarlatina were admitted to hospital, being 1 over the admissions for the preceding week; 11 patients were discharged, and 44 remained under treatment on Saturday, being 3 under the number in hospital on Saturday, May 14.

One case of typhus and 7 cases of enteric fever were admitted to hospital; 9 cases of the former and 19 of the latter disease remained under treatment on Saturday, against 12 and 16, respectively, at the close of the preceding week.

Thirty-eight deaths from diseases of the respiratory system were registered, being 3 over the average for the corresponding week of the last ten years and 6 over the number for the week ended Saturday, May 14; they comprise 23 from bronchitis and 7 from pneumonia or inflammation of the lungs.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of May, 1887.

Mean Height of Barometer, - - -	30·090 inches.
Maximal Height of Barometer (on 14th, at 9 a.m.),-	30·517 „
Minimal Height of Barometer (on 19th, at 11 p.m.),	29·097 „
Mean Dry-bulb Temperature, - -	51·7°.
Mean Wet-bulb Temperature, - - -	47·9°.
Mean Dew-point Temperature, - - -	44·0°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·290 inch.
Mean Humidity, - - - - -	75·6 per cent.
Highest Temperature in Shade (on 25th), - -	66·6°.
Lowest Temperature in Shade (on 1st), - -	36·2°.
Lowest Temperature on Grass (Radiation) (on 1st),	28·6°.
Mean Amount of Cloud, - - - -	60·0 per cent.
Rainfall (on 10 days), - - - -	·882 inch.
Greatest Daily Rainfall (on 19th), - -	·516 inch.
General Directions of Wind, - - -	E.N.E., N.W.

Remarks.

A generally fine, dry, but rather dull month, with high barometer and a remarkable preponderance of polar (N.W. to N.E. and E.) winds. As in April, the precipitation was limited to ten days and was usually in the form of cold showers. On the 19th, however, a heavy downpour of rain (·516 of an inch) took place. There were no electrical disturbances in Dublin.

In Dublin the mean temperature (51·8°) was slightly below the average (52·1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 51·7°. In the twenty-two years ending with 1886, May was coldest in 1869 (M. T. = 48·2°), in 1885 (M. T. = 48·7°), and in 1879 (the cold year) (M. T. = 48·8°). It was warmest in 1868 (the "warm year") (M. T. = 55·8°) and 1875 (M. T. = 54·9°). In 1886, the M. T. was 50·5°

The mean height of the barometer was 30·090 inches, or 0·094 inch above the average value for May—namely, 29·996 inches. The mercury rose to 30·517 inches at 9 a.m. of the 14th, and fell to 29·097 inches at 11 p.m. of the 19th. The observed range of atmospherical pressure was, therefore, as much as 1·420 inches—that is, a little less than one inch and a half. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 51·7°, or 7·4° above the value for April, 1887; that calculated by Kaemtz's formula—viz., *min.* + (*max.* — *min.* × ·41) = *Mean Temp.*—from the means of the daily maxima and minima was 50·6°, or 0·3° below the average mean temperature for May, calculated in the same way, in the twenty years,

1865–84, inclusive (50·9°). The arithmetical mean of the maximal and minimal readings was 51·8°, compared with a twenty years' average of 52·1°. On the 25th the thermometer in the screen rose to 66·6°—wind E.N.E.; on the 1st the temperature fell to 36·2°—wind E. The minimum on the grass was 28·6° on the same date, and also on the 5th. The rainfall was only ·882 of an inch, distributed over 10 days. The average rainfall for May in the twenty years, 1865–84, inclusive, was 1·938 inches, and the average number of rainy days was 15·1. The rainfall and the rainy days, therefore, were decidedly below the average. In 1886 the rainfall in May was very large—5·472 inches on 21 days; in 1869 also 5·414 inches fell on 19 days. On the other hand, in 1871, only ·378 of an inch was measured on 9 days, and in 1876 only ·798 of an inch fell on 6 days.

A lunar corona was seen on the 7th. There were solar halos on the 5th and 7th. The atmosphere was slightly foggy on the evening of the 3rd. High winds were noted on 5 days, attaining the force of a gale on the 19th and 20th. Snow or sleet and hail occurred on the 20th and 21st. The only heavy fall of rain was on the 19th, in connection with a deep depression and severe gale.

During the week ending Saturday, the 7th, the weather was chiefly fair in Ireland and Scotland, but very unsettled over England, France, and the Netherlands. Thunderstorms occurred over France and the midland counties of England on Tuesday, the 3rd. The 2nd was a rainy day in Dublin, but otherwise the week was quite dry here.

The second week commenced with a beautiful day—bright and warm. Temperature rose to 65·9° in Dublin, 70° in London and at Cambridge, 72° at Loughborough, and 73° at Hereford. The barometer ranged very high—from 30·4 to 30·5 inches over the Bay of Biscay, France, and the S. of England and Ireland. After Tuesday, the 10th, a series of cyclonic systems passed south-eastwards across Great Britain and the North Sea, causing dull, cold, showery weather, and fresh northerly winds in those regions. In Ireland conditions were quieter, and the drought continued.

The beginning of the third week (from the 15th to the 21st inclusive), was fine and mild—towards the close of the period, however, a very decided change for the worse took place, and Friday and Saturday were exceedingly cold and inclement, with squalls and heavy showers of sleet or soft hail in nearly all parts of the United Kingdom. On the afternoon of Thursday, the 19th, the barometer fell briskly in the W., and in the course of the following night the centre of a very deep atmospherical depression, with readings as low as 28·92 inches, passed eastwards across Ireland and England, occasioning gales from S.W. veering to W. or N.W. In the Irish Sea, North Wales, and Lancashire, the N.W. gale was particularly severe. Heavy rain fell in most districts as the disturbance

advanced, while in its rear sharp squalls of sleet and hail or "graupel" were experienced, with local thunderstorms. During one of these hail-storms, temperature fell to 37° at Cambridge on Saturday afternoon.

In the week ending Saturday, the 28th, the weather was chiefly fine and dry, although often cloudy and dull, in Ireland and Scotland; but decidedly cold and showery, with overcast skies in England, and especially in the eastern and southern counties. Sunday afternoon proved rainy in Dublin, but afterwards the week was almost rainless except for a shower on Friday evening. In the neighbourhood of London, on the contrary, rain fell on nearly every day, but not heavily—the rainfall for the week there being ·370 of an inch on six days.

The last three days of the month were for the most part fine, but at the very close the showery weather extended to Ireland also.

In Dublin the thermometer in the screen did not fall below 36·2° (on the 1st), but on seven nights temperatures of 32° or less were recorded on the grass. The mean minimal temperature on the grass was 37·9°, compared with 31·6° in April, 29·2° in March, 29·8° in February, and 30·8° in January.

PERISCOPE.

THE RHYTHM AND INNERVATION OF THE HEART OF THE SEA-TURTLE.

Professor T. Wesley Mills has made numerous experiments on *Chelonia caretta*, *C. imbricata*, and *C. mydas*, in continuation of his work on the physiology of the heart in other chelonians. He finds that the power of originating spontaneous rhythm exists in every part of the heart, much best marked in the sinus and in decreasing degree in the sinus-extension, auricles, and ventricle. The degree of spontaneous rhythm of the ventricle varies in different species and individuals, and never equals that of the original normal rhythm. Striking the abdomen or sponging the surface of the peritoneum causes inhibition of the cardiac movements, while electrical stimulation of the brachial plexus has little or no effect. Stimulation of vagi may cause enfeeblement of the beat, most marked in auricles, without change in the rate of pulsation; or stoppage of auricle, whilst the remainder of the heart continues to beat, the movement extending from the sinus, by the sinus-extension to the ventricles; or, while the sinus and extension continue to beat, the auricles and ventricle may come to rest. Preliminary acceleration is not uncommon, if the stimulating current be weak. The effect of vagus stimulation is most marked on the auricle of the side stimulated. Stimulation of the central end of one vagus, the other being uncut, causes either arrest or slowing of rhythm. This could be repeated several times with less and

less effect. In some cases it was followed by decided after-acceleration. The inhibitory effect of vagus stimulation was prolonged in one case for upwards of six hours by acting alternately on the two nerves. The right vagus has a greater inhibitory action than the left. There is no nerve with the functions of a physiological depressor in chelonians. Stimulation of the sympathetic above the middle cervical ganglion produces no constant effects on the heart, but causes opening of the eyelids and dilatation of pupils. Stimulation of the branch from the middle cervical ganglion increases the force of the cardiac beat and, to a less degree, the rate of pulsation. Stimulation of the *ganglion cardiacum basale*, or the main stem beyond it to the next metamere below, gives decided accelerating effect. For interesting speculations on the evolution of the function of the different parts of the heart, and for a comparison of the cardiac innervation and rhythm in the different chelonians, we must refer to the original paper, which is a valuable contribution to comparative cardiac physiology.—Reprint from the *Canadian Record of Science.*

THE CAUSATION OF THE HEART-BEAT.

Dr. T. Wesley Mills, of Montreal, after reviewing the literature of this subject, much of which we owe to himself, formulates the following conclusions as those which, in the light of our present knowledge, may be provisionally accepted:—"1. The factors entering into the causation of the heart-beat of all vertebrates as yet examined are: (*a*) a tendency to spontaneous contraction of the muscle cells composing the heart; (*b*) intra-cardiac pressure; (*c*) condition of nutrition as determined directly by the blood and indirectly by the nervous supply of the organ. 2. The tendency to spontaneous contraction of muscle cells is most marked in the oldest parts of the heart ancestrally considered. I have shown that in the sea-turtle the last segments of the ventricles to pulsate are on its extreme right, while the right auricle outlasts the left, and the sinus and great veins beat much longer still. The same has been noticed in several other groups of animals. The most recently acquired parts of the heart are the first to lose functional activity. These are but extensions of Harvey's observations, seen in the light of evolution. 3. In all hearts examined, intra-cardiac pressure is a factor of considerable importance; in some, as that of the fish, menobranchus, &c., it is the controlling factor. The same may be said of the molluscan heart. 4. The power which one contracting cell, when in action, seems to possess of initiating a similar state in others is of great significance. 5. The influence of the nerves of the heart appears more and more as we ascend the animal scale. They seem only indirectly concerned in the causation of the beat by their influence over nutritive processes; but as the heart is being so frequently modified in its action, their influence in highly developed hearts becomes an almost constant factor, and of a

degree of importance which our knowledge of the relation of nerve to muscle enables us but inadequately to appreciate, but which the pathological changes ensuing on nerve section illustrate. 6. It almost follows from the above that one part of the heart having contracted, the other parts must follow. This is probably the explanation of the rapid onset of the ventricular after the auricular systole in the mammal. It will be remembered, too, that even in the mammal contraction begins in the great veins entering the heart. The basis of all these explanations is found in reality in the *natural contractility of protoplasm*. A heart in its most developed condition still retains, so to speak, the inherited but modified amœba in its every cell. It seems likely to be shown that in the causation of the beat of the mammalian heart all the above-mentioned factors enter. In conclusion, I would express my conviction that our present explanations of heart disease are of too mechanical a character; the nervous and other factors indicated should more largely enter into the reckoning in the cardiac pathology of the immedate future."—Reprint from *Canada Medical and Surgical Journal*, January, 1887.

THE TREATMENT OF COLDS.

Dr. J. H. Whelan, R.N., Surgeon, H.M.S. "Linnet," writes as follows in the *Practitioner* for March, 1887:—"The usual 'coddling' treatment of colds, except in the very old, very young, or very delicate, is a mistake. A person suffering from a catarrh should certainly be warmly clothed and avoid draughts; but by shutting himself up in a warm room, by taking warm air baths and lowering medicines, he only promotes the development of the exciting cause of the affection. 'Feed a cold, starve a fever.' There is a deal of wisdom in the first part of this advice. A person with a catarrh should take an abundance of light nutritious food, and some light wine, but avoid spirits, and above all tobacco. Now as to medicines. All depressants should be avoided. For some time I was in the habit of taking a mixture recommended by Dr. Jukes Styrap, composed of minute doses of morphin, antimonial wine, and potassium citrate. This beyond doubt always subdued the acute inflammatory stage, but I have no hesitation in saying I was depressed by its action, and rendered liable to relapses and renewals. Personally I have found the large dose of an opiate in the early stages, as extolled by Sir Thomas Watson and Dr. George Johnson, very unpleasant and of but little use. Trying to avert an attack by a large dose of potassium iodide failed in my hands. The bromides were useless through all stages. Antiseptic inhalations and spraying afforded temporary relief from the distressing symptoms, but failed to cure. Belladonna, quinine, and arsenic, I have found useful when given separately—not so much in large as in small doses. When combined I believe them to be nearly specific—prophylactically and therapeutically, if I may so speak. The formula I

invariably use is as follows:—℞. Quininæ sulphatis, gr. 18; liquoris arsenicalis, ♏xij.; liquoris atropinæ, ♏j.; extracti gentianæ, gr. 20; pulveris gummi acaciæ q.s. ut fiant pilulæ xii. Sig. One every three, four, or six hours according to circumstances. If these pills be commenced in the early stage of a common cold—*i.e.*, when the affection is as yet confined to the nose and pharynx, the affection will be nipped in the bud. At starting one pill should be taken every three or four hours, and later on every six. If a catarrhal subject has a box of these pills always at hand, he has, I believe, a weapon wherewith to meet and defeat his enemy. The longest time I have seen a cold last whilst the patient was fairly taking these pills was three days. How the remedy acts I do not know, except it be as a powerful nervine and general tonic, bracing the patient's tissues up to resist the attacks of the exciting cause of the affection.

ANTIPYRIN AS AN ANODYNE.

Antipyrin has hitherto been chiefly used as an antipyretic, but M. Germain Sée points out that it also possesses remarkable anodyne properties (*Compt. Rend.*, CIV., 1085). This has been proved in cases of migraine, neuralgia, muscular rheumatism, locomotor ataxy, lumbago, sciatica, cardiac, and other painful diseases. M. Sée remarks that it is superior to antifebrin for this purpose, since the dose of antifebrin that would produce the same anodyne result gives rise, if great care be not taken, to serious symptoms, so that it cannot be used with safety. The only inconvenience experienced from the long-continued use of antipyrin, or from an over-dose, is the production of a rash resembling nettle rash or scarlatina, but this disappears if the dose is lessened. Antipyrin has also been employed as a hæmostatic by Dr. Goets, of Geneva, in bleeding at the nose in a case of purpura hæmorrhagica, and it has also been applied locally for the same purpose in other diseases.—*Pharm. Jour.*, May 26.

CORROSIVE SUBLIMATE POISONING.

Dr. Wm. T. Beefield, of Chicago, relates a case in the *New York Medical Record* of a fatal poisoning by absorption of mercuric chloride, used as a dressing for a wound. The case was one of supra-pubic cystotomy, two calculi (weighing two ounces and six drachms) being removed. The patient did well until the eleventh day, when symptoms of mercurial poisoning ensued. The patient finally died, though the mercuric dressings were discontinued as soon as toxic symptoms were recognised.—*Medical Herald*, Dec., 1886.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

AUGUST 1, 1887.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*Contrast between Laparo-Colotomy and Lumbar Colotomy.*[a] By CHARLES B. BALL, M.D., F.R.C.S.I.; Surgeon to Sir P. Dun's Hospital; University Examiner in Surgery, and Examiner in Surgery, Royal College of Surgeons in Ireland.

THE recent improvements in rectal and abdominal surgery have, to a certain extent, limited the number of cases in which colotomy is indicated, and no doubt, where possible, ablation of the rectum, linear proctotomy, and resection of the colon, are all operations to be preferred to the establishment of an artificial anus. While, however, assigning to each of these operations their utmost limits of utility, there remains a considerable number of cases in which colotomy must still be looked upon as the proper treatment.

As the object of this proceedure is to provide an alternative outlet for the intestinal contents through which more or less incontinence of fæces is a necessary result, it follows that the condition of the patient afterwards is by no means pleasant to himself or those about him. It is, therefore, only to be undertaken in cases in which the indication is very clear, and after the patient has been fully told of the inevitable result of the operation. In the case of imperforate infants, where perinæal incision has failed, it is the duty of the surgeon to lay the case fully before the parents, telling them that life may be possibly saved by means of colotomy,

[a] Read before the Surgical Section of the Academy of Medicine in Ireland, on Friday, May 20, 1887.

whereas without it death is certain. The onus of deciding for or against colotomy should be thrown on the parents in cases of imperforate rectum; but where the patient is an adult, suffering from obstruction, he alone must decide. In the latter case the pain and distress are usually so extreme that the sufferers generally gladly accept the conditions, and when the case is successful in relieving urgent symptoms are loud in their thanks for the relief obtained. The surgeon has no right in these cases of his own motion to act as the arbiter between life and death; and, if he fail to recommend colotomy in urgent cases, he is, in my mind, as guilty of dereliction of duty as if he refused to sanction tracheotomy for the relief of a patient suffering from obstructed glottis.

It is necessary to clearly indicate the conditions calling for this operation, and they may be conveniently grouped under the following heads:—1. Congenital malformations which cannot be relieved by perinæal incision. 2. For the relief of distress attending recto-vesical fistula. 3. For obstruction, the result of (*a*) pressure of tumours; (*b*) cancer of the bowel; (*c*) non-malignant strictures, which are of such an extent as to preclude perinæal operation. 4. As a means of treating extensive ulceration, by providing physiological rest to the part.

Lumbar Colotomy.—"Amussat's operation" has hitherto been the form most frequently recommended by modern surgeons where the patient was an adult, while the inguinal, or Littré's operation, has been principally confined to the treatment of cases of imperforate anus, the reason assigned being the frequency with which a mesocolon is met with in the infant.

It is unnecessary for us here to discuss the manipulative details of these two operations as usually performed, as they are sufficiently familiar to all operating surgeons; but, in order to establish the comparison between them, it will be necessary in the first place to consider the *Accidents during and consequent on the Lumbar Operation.*—Wound of the peritoneum is of frequent occurrence; and when there is a mesocolon present, its injury is inevitable. If the opening is at all free, prolapse of small intestine is likely to take place, and considerably complicate the operation. In such a case the proper course would be—having reduced the prolapse, an aseptic sponge should be plugged into the wound, and the search for the colon prosecuted, and as soon as it is found the peritoneal wound must be carefully closed before attempting to open the bowel.

In some cases the operator has failed entirely in finding the colon, some portion of the small intestine being opened in its place. It is hard to imagine how this accident has occurred on the left side, because the small intestine could be reached only after the peritoneum has been opened, and under these circumstances the appearance of the longitudinal bands and appendices epiploicæ are so characteristic of the large intestine, that with ordinary caution the distinction should easily be made. On the right side the mistake of opening the duodenum instead of the colon appears to me to be a much more real danger. One of the most experienced colotomists at present living has candidly admitted that this accident has occurred in his practice.

During the after-treatment one of the greatest dangers is the occurrence of diffuse inflammation and suppuration along the areolar spaces of the abdominal wall. I have seen very extensive sloughing of the skin of the loin follow an operation of this kind.

Although it is impossible, from the nature of the wound, to follow strictly the rules of antiseptic surgery, much may be done in this direction with sublimate solution and iodoform; but the most important of all measures, I believe, is the accurate suturing of the mucous membrane to the skin, and thus preventing extravasation of fæces.

During the after-treatment also, a collection of fæces in the lower segment of the gut is a troublesome complication. When occurring to any extent it may produce, as Bryant has pointed out, symptoms of intestinal obstruction, notwithstanding the fact that an outlet for fæces exists higher up; and even where this is not the case, the irritation in cases of malignant ulceration defeats to a great extent the object of the operation, while in cases of vesico-intestinal fistula the trouble is even more exaggerated. In order to remedy this, several suggestions have been made—(1) to pass the sutures deeply, so as to include the entire thickness of the bowel instead of its posterior aspect only. As this, however, necessitates the passage of the sutures across the peritoneal cavity, it does away with the sole advantage claimed for lumbar colotomy. (2) It has also been attempted to bring out a knuckle of intestine at a very acute angle, in the hope that in this way a spur might be formed similar to that which is found in artificial anus following hernia. (3) The only proceeding, however, by which the advantages of lumbar colotomy can be combined with absolute closure of the lower segment, is by means of the operation recommended

by Mr. P. Jones.[a] He detached the mucous membrane from a prolapsed portion of gut, and from the lower margin of the colotomy opening, turning it on itself, and attaching the raw surfaces by means of the catgut, and afterwards brought together the surfaces denuded of mucous membrane. No fæcal matter passed beyond the opening after this procedure had been carried out. Of course it is obvious that no attempt to close the lower opening should be contemplated when there is a possibility of establishing at some future date the normal exit for fæces.

Another troublesome after-complication is prolapse of the bowel through the artificial anus. This is frequently due to the continued expulsive effort trying to get rid of the accumulation of fæces in the lower portion of the bowel. It is to be treated by the adjustment of a well-fitting pad, and, if possible, by the closure of the lower orifice.

In common with all other extensive wounds of the abdominal parietes, hernia may occasionally occur. Of this accident Mr. Simpson records an instructive example.[b] Upwards of four years after the operation of colotomy, the patient felt something suddenly give way while coughing, and a tumour appeared immediately below the artificial anus, and he died in two days. At the *post mortem* the tumour was found to contain a large loop of ileum, in part gangrenous.

Statistics of Colotomy.—The most comprehensive record of cases of colotomy hitherto published is that by Dr. W. R. Batt,[c] and the following is his analysis of cases, slightly condensed. Of a total of 351 operations, 154 were performed for malignant disease, 20 for fistula, 52 for imperforate anus, 40 for obstruction, 72 for stricture, 4 for ulceration, and 9 for miscellaneous causes. The recoveries were 215, deaths 132, equal to a mortality of 38 per cent., the result of 4 cases being unrecorded. Of these, the number of operations performed by Amussat's method was 244: 165, or 68·2 per cent., recovered; 31·8 per cent. were fatal; and the result in 2 cases is unrecorded. After Littré's method 82 operations were performed: of these, 38, or 46·9 per cent., recovered, and 43, or 53·1, proved fatal, the result in one case being unrecorded. After Callisen's method 10 were operated upon, 2 of which recovered, 7 were fatal, and in 1 the result is not stated.

[a] British Medical Journal, April 24, 1886. P. 782.
[b] British Medical Journal, May 23, 1885. P. 1,039.
[c] American Journal of Medical Science, Oct., 1884. P. 423.

Four cases were performed by Fine's method, all of which are recorded as having been successful. In one fatal case a T-shaped incision was adopted, while in 10 the method of operating was not stated. Of these, 6 recovered and 4 proved fatal.

According to these statistics, the mortality of inguinal colotomy is 20 per cent. greater than that of the retro-peritoneal operation. According to Erckelen's statistics,[a] the mortality shows a difference of 10 per cent. in favour of Amussat's operation. I think, however, that it will be admitted that statistics of this kind, which are collected from published cases, are at all times misleading; but especially is this the case in the instance at present under consideration, for in the first place the inguinal operation has been selected in a large proportion of the total number as a treatment for imperforate rectum, and frequently not adopted until after an extensive exploration from the perinæum, when the patient was nearly exhausted. And, again, as these statistics contain the records for many years back, they embrace a period when peritoneal surgery of all kinds was in a very different condition from that in which it is at the present day, so that I think the time has come when the relative merits of both operations may be fully discussed without our being too much influenced by the results obtained under the older methods of wound-treatment. The unquestionable advantages of laparo-colotomy are these:—1. It permits a thorough exploration of the abdominal cavity, which may enable the surgeon in some instances to perform a more radical operation for the complete removal of the disease, and if removal is impracticable it ensures that the opening is made above the seat of obstruction instead of below, as has happened with the lumbar operation. 2. The large intestine is found with ease and certainty. 3. A complete operation for closure of the lower lumen when considered necessary can be much more readily and completely carried out, thus making the artificial anus a *terminus*, and not a lateral outlet to the intestine. 4. A shorter distance of intestine intervenes between the opening and seat of disease. 5. The abdominal wall being thinner in front, the extent of wound-surface is less, and the finer skin of the front abdominal wall permits a much more accurate coaptation of skin to mucous membrane. 6. The position of the wound is much more convenient for the patient, and it is interfered with less by the clothing. So then the sole disadvantage of laparo-colotomy is the necessary wounding of the

[a] Archiv. f. klin. Chir. Langenbeck, 1879. P. 41.

peritoneum; and it must be remembered that even in the hands of skilled colotomists wound of the peritoneum in the lumbar operation has not infrequently taken place. It is manifestly easier to deal with a peritoneal wound advisedly and carefully made, than with an accidental opening at the bottom of a rather deep incision.

Delayed Opening of the Intestine.—"Operation à deux temps."—The unequivocal advantage which has been found to follow the division of the operation of gastrostomy into two stages has naturally suggested a similar manner of proceeding in colotomy; and cases have recently appeared in which both laparo-colotomy and lumbar colotomy have thus been performed. In a communication made to the Clinical Society of London by Mr. Davies Colley,[a] three cases are recorded, in which the lumbar operation was performed in two stages; the intervals being one, four, and six days respectively. It would appear from these cases that the procedure necessary to retain the loop of bowel in the wound was attended more or less with symptoms of intestinal strangulation, and in order to minimise this result as much as possible Mr. Davies Colley has devised a form of clamp, in which two pairs of ivory studs placed on steel bars are made to grasp the bowel at two places; and by this means the loop of intestine is held without being strangulated, until sufficient healing of the wound has taken place to obviate any risk of extravasation. In two out of the three cases this instrument was used, and the resulting constitutional symptoms are described as being trivial.

The analogy between gastrostomy and colotomy, however, scarcely holds; because the mere fact of retaining a small portion of the stomach wall in the abdominal wound can have no direct influence one way or the other on the œsophageal disease for which the operation has been undertaken; while in the case of the colotomy a certain amount of obstruction will probably have existed before the operation, which will be rendered absolute by the drawing out the loop of intestine, and to the symptoms of obstruction will be added more or less those of strangulation. Indeed, it is a very common result of colotomy to have some vomiting and depression for the first two or three days, which may, in all probability, be ascribed to the strangulation of a small portion of the intestinal wall by the sutures. And it is obviously a prolongation of this trouble if after three or four days the bowel is opened, and a fresh set of sutures put in.

[a] Lancet, March 21, 1885.

I operated on a case of rectal cancer in November, 1884, by laparo-colotomy, having chosen this operation as I thought that possibly I might be able to do the more radical operation of excision. As the disease was so extensive that excision was deemed impracticable, a loop of the sigmoid flexure was drawn out, emptied by pressure upwards from the seat of obstruction, and caught between two clamps. It was now divided between the clamps, the wall of the lower segment was inverted so as to bring the peritoneal surfaces into apposition, and carefully sutured up, and the upper orifice was stitched to the wound. This patient lived for two years and a fortnight after the operation. Until a short time before her death she was able to go about and attend to the artificial anus without help; the bowels moved but once a day, and she was conscious that the motion was coming sufficiently long beforehand to make all the necessary preparations. In a more recent instance I again selected laparo-colotomy in a case of rectal cancer, and I adopted a method which so absolutely prevented extravasation that I venture to think it will prove more useful than the method of performing the operation in two stages. An incision about four inches long was made in the left linea semilunaris, this position being selected for the following reasons:—It freely exposes the sigmoid flexure; it is made without cutting muscle; the parietes are thinner here than elsewhere, and no vessels of importance are wounded. The deep epigastric artery is quite safe from injury if the lowest limit of the incision does not pass a line drawn from the umbilicus to the middle of Poupart's ligament. The upper limit of the cancer having been determined, the gut was emptied upwards by careful pressure, and a loop of bowel drawn out. A narrow-bladed clamp was now applied to the intestine, so as to prevent any fæces coming down, and a similar one applied to the distal extremity of the loop. In the present case, Ricord's phimosis forceps, covered with rubber tubing, and closed by means of elastic umbrella-rings, were used for clamps—I have since had a special clamp made, which has the advantage of having the blades move quite parallel. By means of a screw the exact amount of pressure necessary to retain the loop of intestine in the grasp can be applied, and a double angle permits of the blade portion lying easily within the peritoneal cavity—the clamps being applied, a number of sutures were passed through the abdominal wall, including the peritoneum, on one side, through the intestine *in front of the clamp*, and through the peritoneum and abdominal wall on the opposite

side. Eleven sutures were in this way passed, five perforating each portion of intestine, and one passing through the mesocolon. The bowel was now opened between two aseptic sponges, and the interior carefully cleansed of mucus and fæces. The loops of the sutures were hooked out from within the lumen of the bowel, cut, and the central ones tied on each side; the suture through the mesocolon was also tied, the sutures through the angles of the abdominal wound and outer borders of the bowel alone remaining unclosed. A number of superficial sutures were now put in so as to render the application of the mucous membrane to the skin extremely accurate all round, except at the angles where the handles of the clamps lay. The clamps were now withdrawn one by one, and the remaining sutures at either angle simultaneously closed, thus shutting off the opening into the peritoneal cavity at the moment that the clamps released the bowel. The single suture through the mesocolon is, I think, of use in insuring a larger surface of peritoneum being in apposition to the abdominal wound, and the second clamp on the distal extremity of the bowel, although not as essential as the other, facilitates the operation considerably. In this case I did not close the lower lumen, as there was very considerable discharge from the cancer, and I wished to be enabled to wash the lower segment out occasionally; but it could have been done, if considered advisable, with the greatest facility. This patient recovered well, and was much relieved by the operation.

Prognosis.—In estimating the probable result of colotomy, it is necessary to carefully classify the cases. Where the operation has been performed for malignant disease, the duration of life can be prolonged only to a certain extent, the disease progressing and ultimately proving fatal. According to Batt, in 32 per cent. of the cases operated on, death was apparently directly due to the operation when performed for malignant disease; and of 105 that recovered, and whose subsequent history was traced, it was found that six died within two months of the operation, seven died between three and six months after operation, fifteen died between six months and one year, ten died between one and two years, eight died between two and three years, and one died four and a half years after operation. Of thirty-two patients recorded as being well after the operation, only one had survived two years; and one, one year. It is of course obviously impossible to form any estimate of how long these patients could have lived if colotomy had not been performed.

In my own practice I have performed colotomy five times for rectal cancer. In three cases the lumbar operation was selected; one of these patients lived six months, another three years, and one is alive at present; and in two in which laparo-colotomy was selected one lived two years and a fortnight, and the other is alive at present.

It has, however, been suggested that this operation has a direct influence in checking the growth of disease. There is in the Hunterian Museum a very beautiful specimen (No. 2591), taken from a case of colotomy of thirty years' standing, in which the mucosa of the rectum below the opening has undergone atrophy and become villous, these changes being apparently the result of disuse. It is claimed that, as the form of cancer usually found in the rectum is so completely formed of glandular tissue, the abrogation of function of the rectum induced by the colotomy will be followed by atrophy of the morbid growth as well as of the normal structures. I do not think, however, it is safe to draw conclusions as to the result of a certain procedure on a pathological formation from the changes induced in normal structure, as the conditions of growth under the two circumstances are so essentially dissimilar; and the dreary record of early death after operation shows conclusively that the progress of disease in these cases is not to any great extent arrested.

That life can be prolonged when death is threatened by obstruction is of course certain, and probably the diversion of fæces from the surface of the malignant growth, and absolute rest insured for the part, tend somewhat to retard the growth; and anyone who has witnessed the relief afforded to a person suffering from obstruction, by this operation, will at once admit the complete justification of the procedure. The immediate result is much influenced by the stage of the disease at which the operation is performed; most of the fatal results being due to what Mr. Bryant has truly called "too late" cases.

I believe that the most important evidence that the case is too late for operation is the presence of extensive meteorism. Where the bowel has been hyper-distended it has become in such an atonic condition that it may be unable to recover itself after an outlet has been provided, and if such should prove to be the case a rapidly fatal result must follow. Extensive meteorism is in itself also a very serious complication to the manipulative details of laparo-colotomy. I recently witnessed an operation under such

conditions. The moment the abdominal incision was made, a very extensive prolapse of small intestine took place, which could not be restrained. The recommendation of Mr. Greig Smith was followed, and an incision made in the small intestine, which was then as far as possible evacuated; the incision sutured, and the intestine returned to the abdominal cavity; the colon was now drawn out, and the operation completed; but the patient never recovered power over the intestine, and died in two days. In a case of rectal obstruction with extensive meteorism I have recently adopted the lumbar operation, instead of laparo-colotomy, with a satisfactory result, and I am strongly of opinion that the sole reason for selecting the former operation should be the existence of this symptom.

ART. V.—*Clinical Illustrations of Perforation of the Intestines in Enteric Fever.*[a] By ROBERT S. ARCHER, B.A., M.D., M.Ch., Trin. Coll. Dub.; late Physician, Netherfield Fever Hospital, Liverpool.

OF all the serious complications met with in enteric fever the most to be dreaded is the establishment of a communication between the intestine and the peritoneal cavity. No other one is so certainly attended with a fatal result, and no other causes so much suffering to the patient. The longest period a patient survives this accident is four days (Liebermeister), but usually death lays hold of his victim earlier. Occasionally recovery is said to take place after perforation, but such a termination is certainly rare.

In this communication I am not sanguine enough to hope that I shall be able to shed any new light on this terrible lesion. I shall simply and as briefly as possible relate six cases, and make such remarks as they seem to suggest.

Before proceeding to give an account of the cases, I wish here to draw a distinction between perforation in the proper sense of the term and rupture of the peritoneal coat at the base of an ulcer. In the case of perforation the process would seem to be a gradually progressive necrotic one, involving in order all the coats of the gut from within out, the peritoneal coat at length succumbing to the destructive change. There is usually a considerable amount of lymph thrown out in the immediate neighbourhood of the opening, and, it may be, adhesion of its edges to some adjacent structure,

[a] Being a Thesis for the Degree of Doctor of Medicine in the University of Dublin.

whereby nature would seem to attempt to prevent the escape of the intestinal contents. The perforation is usually more or less circular, and its edges somewhat thickened by lymphy deposit. Its size may vary from a small pin-hole opening to one half an inch or more in diameter.

In rupture of the peritoneal coat, on the other hand, the ulcerative process seems to stop suddenly at, or has not extended to, the serous membrane, and the latter gives way from the pressure of fæces or gas. In this case the opening takes the form of a more or less regular linear slit, with little or no deposit of lymph, and the edges may be brought together with considerable accuracy. In only one of the following cases did rupture take place. In cases of rupture, it is not improbable that there will usually be found a considerable amount of atony of the intestine favouring the accumulation of gas or fæces.

Case I.—*Rupture of the Peritoneal Coat of the Intestine one foot above the Cœcum; death on eighteenth day.*—J. Q., aged seventeen years, came under my care in Netherfield Fever Hospital, on October 11th, 1880, in the convalescent stage of a mild attack of scarlatina. There had been enteric fever in the house from which he came, and his mother died of the latter disease at home shortly after he contracted it in hospital—so in this case we probably have an example of the infection of one specific fever lying latent in the system until another had expended its energies. On October 22nd, when fairly convalescent from the scarlatina, he was seized with headache, rigors, and severe diarrhœa—symptoms which at the time we were inclined not to attach much importance to, especially as on the next day the diarrhœa had abated, and he expressed himself as "feeling perfectly well." However, on October 25th, there was a recurrence of the diarrhœa, accompanied by heat of body, sweats, thirst, loss of appetite, pain in abdomen, and again headache. In the evening the temperature was 102·4°, and there being a trace of albumen in the urine, it was not unnaturally surmised that he was about to have an attack of scarlatinal nephritis. The temperature gradually rose, and on the sixth day of the reappearance of feverish symptoms it was 105° in the evening. Coincident with this rise of temperature the signs and symptoms of enteric fever gradually became developed. Diarrhœa throughout was excessive, and called for treatment to keep it in check. The pulse ranged from 84 to 100, and was soft and compressible. Retching was more or less constant, and there was occasional vomiting. On the eighth day two enteric spots made their appearance, and the abdomen was swollen and tympanitic. On the following day a dozen rose-coloured spots were observed. There also became developed at this time

a low subdued form of delirium. Hypostatic congestion of bases of the lungs was detected, accompanied by some dark-coloured expectoration, which seemed to cause a good deal of retching. The temperature was continuing so high on the ninth and tenth days that it was deemed advisable to give a bath at 68° F. on the evenings of these days for ten minutes; this had the effect on the first occasion of lowering the temperature from above 104° to 97·6°, and on the second to 96·4°. From this the tendency to hyperpyrexia was kept within bounds by quinine. Abdominal tenderness, cæcal gurgling, and marked tympanites were very distressing symptoms from about the ninth day. On the eleventh day there was prune-coloured expectoration, and on the thirteenth ear-ache and sore throat were complained of. Some liquid blood and clots were passed from the bowel on the fourteenth day, and on the following day there were five bloody stools; for this turpentine and liquid extract of ergot were administered. The hæmorrhage, though not profuse, had the effect of reducing the temperature from 103·2° to 99·4°; it, however, gradually rose again. On the sixteenth and previous day there was very considerable abdominal pain, accompanied by constant moaning and great restlessness. From this time till his death on the evening of the eighteenth day, the abdominal pain continued, and did not seem to be much relieved by hypodermic injections of morphin. The vomiting became very urgent, and towards the end hiccough was a most distressing symptom. Before death the pulse, which all along had been comparatively slow, became 138; and the temperature from 99·8° in the morning gradually and continuously rose to 103°, shortly before death.

Post mortem.—Thirty-seven hours dead.

Chest.—*Lungs* were much congested at bases, especially the right, which was in a state of splenisation; they exuded frothy serum, and were resistant to the touch. *Heart* small as compared with body, muscular structure firm, and of a bright red hue.

Abdomen.—*Liver* a good deal enlarged, externally of a greenish-slate colour (*post mortem* discoloration); substance soft and friable, of a lighter colour than normal.

Spleen, about twice its natural size, externally of same colour as liver. Section pulpy, and of a rich claret colour.

Intestines.—The peritoneal coat of the small intestine was inflamed here and there in streaks and in the situations corresponding to ulcers on the internal surface. A small quantity of creamy purulent matter lay around the termination of the ileum, and, on gentle pressure, a small amount of yellow fluid fæces exuded through a slit about one foot above the cæcum. The typhoid ulceration was confined to about the eighteen lower inches of the small intestine. The slit, mentioned above, was about a quarter of an inch in length, and occurred only in the peritoneal coat, all the other coats being destroyed by ulceration. The intestines were in parts distended

more than in others, as if the muscular coat had not its tone. The colour appeared normal. Several of the mesenteric glands were swollen, soft, and of a grayish colour.

In this case the opening in the intestine took the form of a linear slit, not produced by a gradual necrotic process extending to the serous membrane, but resulting from rupture of the latter coat, after the ulceration had destroyed and caused to slough away the muscular tissue. The rupture probably arose from the pressure of an accumulation of fæces or gas in a bowel which had to a large extent lost its muscular tone.

Case II.—*Perforation of Intestine eighteen inches above Ileo-cæcal Valve; Gall-stones; death on fortieth day.*—Mr. B., aged thirty-one years, a strong, robust, and well-nourished man, was admitted to hospital on Nov. 18, 1881. He dated his illness from about seven days previously, but said he had been "out of sorts" for a day or two before this. The onset was marked by extreme exhaustion; he "ached all over as if bruised." There were also headache, rigors, tinnitus aurium, and giddiness. The day after admission a couple of roseolar spots were discovered. Diarrhœa was not a marked symptom till the eighteenth day, and occasionally, before this date, enemata were required to open the bowels. From this date the diarrhœa was more or less profuse, and at times excessive. Tympanites was not at any time excessive—indeed there was scarcely any abdominal distension or pain. The most serious symptom, which characterised the case almost from the commencement, was extreme nervous prostration, with a low form of delirium, and an occasional tendency to weep. The temperature reached, and remained at—for a considerable period—a high level. On the morning of the eighteenth day the loss of about five ounces of blood caused us some anxiety. This, however, appeared to have been checked by the prompt and judicious treatment adopted by Dr. Hope, the House Physician. On the twenty-first day there was another hæmorrhage, to the extent of about ten ounces, and on the following day he lost about five ounces of blood—in all, about twenty ounces, besides several blood-stained stools. After this there was no more bleeding. On the evening of the twentieth day a fall of temperature was registered, and for seven days the temperature curves assumed a position on an average about a degree lower than they had been. In the forenoon of the twenty-eighth day, coincident with a severe rigor, the temperature suddenly ran up to near 105° F., and signs of circumscribed moderate consolidation of the base of the right lung became evident. The temperature was reduced by twenty grs. of quinine; it rose again shortly, but not to so high a level. From this time the course of the case was progressively and decidedly towards a fatal termination.

On thirty-sixth day it was very evident that the end was not far distant. He passed bad nights, had low muttering delirium, with a tendency to coma-vigil, and the cardiac sounds became muffled and indistinct, and the pulse thready and feeble (130 to 150). The tongue was dry, hard, with black central streak, and tremulous. There was muscular tremor and carphology, tremulousness of the voice, and great prostration. *There was scarcely any tympanites, no retching or vomiting, and no complaint or sign of abdominal pain or tenderness* at this time, nor, indeed, at any other stage of the fever.

Post-mortem Examination.—Dead about eighteen hours; rigor mortis fairly marked; about one and a half inches of fat over abdomen, and about one inch over chest.

Chest; Lungs.—Anterior parts quite healthy and crepitating, almost in a state of splenisation at bases, especially on right side; heart of fair size, its muscular structure appeared healthy; clots in right cavities.

Abdomen.—Intestines of an ashy-gray colour; thin, as if atrophied. A small quantity of yellowish fluid in lower part of peritoneal cavity. There was a little lymph on lower part of small intestines, and commencement of colon, around the cæcum. A small quantity of fluid fæcal matter exuded from a minute opening in the lower part of ileum. The first ulcer was discovered about six feet from the ileo-cæcal valve, involving one of the solitary glands. As the intestine was traced downwards, several of Peyer's patches were ulcerated, and had shreddy sloughs of an orange colour adhering to their centres. Lower down there were some patches, from which sloughs had separated, leaving ulcers with sharply defined excavated margins. The floors of many of these appeared to consist only of the peritoneal coat. About eighteen inches from the valve there was a large patch of ulceration, with an almost circular perforation about a quarter of an inch in diameter, occupying its centre. In the neighbourhood of the valve were found large irregular ulcerated areas, without sloughs.

Spleen.—Enlarged, externally of a slate colour (effects of decomposition). Section was soft, friable, and of a rich claret colour.

Liver.—Large, rather pale, slightly friable.

Gall-bladder contained 105 stones, varying in size from a pin's head to a small pea, the larger ones with small protuberances on their surfaces.

Kidneys embedded in fat, and of about the normal size; stellate vessels on surface; section paler than normal.

Mesenteric glands enlarged.

There was no symptom, such as violent and sudden abdominal pain, vomiting, or marked tympanites, during the closing hours or days of his life, that would lead one to suppose that perforation

had taken place. The chief reason of this was, I suppose, that the low state of vitality of the tissues, induced by the prolonged drain on the system, and by hæmorrhage, prevented them from taking on a sufficiently active type of inflammatory reaction to produce pain—a little lymph, without any accompanying peritoneal injection, alone being thrown out.

It is a remarkable fact that, considering the length of this case, emaciation to anything like a marked or even a moderate degree was not conspicuous. This is probably to be accounted for by the robust and stout condition of the patient when first attacked.

The opening in the intestine evidently resulted from a gradually progressive ulcerative process, and was not due to rupture from over-distension by fæces or gas. An opening produced by the latter cause would probably be a linear, more or less regular rent, and not a nearly circular perforation, with manifest loss of substance. To this gradual ulceration may have been due, to a considerable degree, the absence of suffering. Doubtless, also, the amount of hæmorrhage (twenty ounces) had a lowering effect on the system at large, and particularly on the nutrition of the intestines, rendering the latter less capable of withstanding the progress of destructive local lesions.

The point I wish more particularly to direct attention to in this case is the co-existence of gall-stones, and I propose to inquire to what extent this complication may have contributed to produce the lesion that destroyed life.

Inflammation of the lining membrane of the gall-bladder is one of the recognised complications occasionally found in typhoid fever. Peritonitis has been known to have been kindled by ulceration progressing through all the coats of this organ, and Murchison[a] mentions one case in which death ensued on the eighteenth day from this cause. Barthez and Rilliet also record a case, and Hamernjk, Archambault, and Thierfelder three others. Dr. J. Budd[b] relates the case of a girl who died on the thirty-sixth day of enteric fever from peritonitis produced by suppurative inflammation of the mucous membrane of a gall-bladder, in which fourteen stones were found, one of them occluding the cystic duct. But in the case just related there was no inflammation of the mucous membrane of the gall-bladder, nor was there any peritonitis in its neighbour-

[a] Continued Fevers. P. 564.

[b] Dis. of Liver, 3rd ed., 1857, p. 195.

hood. There was no sign or symptom whatever referable to the hepatic region that would lead one to suspect the presence of gall-stones.

There are two ways in which biliary calculi may be supposed to have been accessory to the fatal termination—viz., (1) *directly or mechanically;* (2) *indirectly or reflexly.*

(1.) As regards the first—the *direct or mechanical* method—it is quite possible that a minute stone or fragment of a stone, having slipped unnoticed into the bowel, and lodged in one of the folds of the lax and congested mucous membrane, or on the spongy surface of one of Peyer's patches, may have set up such an amount of irritation as to produce, or at least increase, the bleeding, which would tend to lessen the power of resistance of the intestine. Or, again, a direct opening may have been made into a vessel of moderate size by ulceration induced or aggravated by a pin-head-sized stone. Or again, a stone of very small dimensions may have escaped shortly before perforation, and becoming lodged in the peritoneal floor of an ulcer, may have been the direct exciting cause of the perforation. True, there was no calculus found in the motions during life, nor in the intestine or peritoneal cavity after death; but then such a thing was not sought for—the presence of hepatic calculi not being suspected—and even if a search had been made the greatest vigilance could have been readily eluded by a small stone.

(2.) The *indirect or reflex* method, by which a tendency to hæmorrhage or perforation may have been excited or increased by gall-stones, is explicable by the direct continuity of the intestine with the gall-bladder, and by the common source from which the nervous supply of both is derived. Although, from a developmental point of view, the gall-bladder is not directly a diverticulum from the intestine, for all practical purposes it may be considered as such. Physiology informs us that when the intestines are in an empty condition they remain in a state of quiescence, but when they contain anything, peristalsis is the result. Therefore, by considering the gall-bladder as a portion of the intestine, it will readily be perceived that the irritation caused by calculi in the former must have led to a greater or less amount of constant peristaltic action in the latter, and thus have increased the tendency to hæmorrhage and perforation. Thus, then, the tendency to hæmorrhage may have been increased both mechanically and reflexly, and perforation in addition may have been

predisposed to by the same means—the direct or indirect irritation of gall-stones.[a]

Case III.—*Two Perforations—one eighteen inches above the Valve, another a little higher up; death on forty-fourth day.*—E. H., aged twenty-eight years, was admitted to hospital about the tenth day of enteric fever, on December 24th, 1882. No spots were noticed, but there was a slight amount of abdominal distension. The area of splenic dulness was increased. There was tenderness over the lower part of the abdomen, and gurgling in the right iliac fossa. On the day of admission, and on the following one, there was a slight amount of hæmorrhage from the bowel. There was no diarrhœa after she was admitted to hospital, although she was reported to have suffered from it before admission. Throughout the case was what might be called a mild attack of enteric fever. The temperature never rose higher than 103°, and only on a few occasions reached this limit. However, though the patient was not distressed by any urgent symptoms, the temperature did not seem inclined to settle down at the usual time. About the thirty-second day signs of consolidation of the base of the right lung showed themselves, the abdominal symptoms having in the meantime almost entirely subsided. Pulse, 132.

Suddenly, on the forty-second day, there was a complaint of pain (not excessive) over the lower part of the abdomen, and the muscles became rigid, but there was no distension. Pain and tenderness continued, though by no means were they distressing symptoms, and slight distension supervened. Vomiting did not occur till the day of death, and then was very urgent. Pulse, 140; respiration, 48. Died on the forty-fourth day.

Post mortem.—The intestines were matted together by recent lymph, and there was a slight amount of ascitic fluid. The peritoneal cavity contained some escaped intestinal contents. There were ulcerations in the lower part of the small intestine and cæcum. The floors of two ulcers presented perforations—one about eighteen inches above the valve, and the other somewhat higher up.

This case is an example of perforation occurring in the advanced stages of a fever which might be regarded as mild, so far as the symptoms were concerned, but in which the pyrexial movement was unduly prolonged. Probably the continuance of the fever was due to the irritation of the intestinal ulcers, which, from some cause or other, did not seem disposed to heal.

[a] These remarks concerning biliary calculi occurred in a paper of mine entitled "Clinical Observations on two Fatal Cases of Enteric Fever, complicated by Biliary Calculi," which was published in the Liverpool Medico-Chirurgical Journal, Jan., 1883. This was one of the cases, and the other, curious enough, was the same patient's wife, who died on the fifteenth day of the fever from intestinal hæmorrhage thirty-five much larger stones being found in her gall-bladder.—R. S. A.

Case IV.—*Perforation two inches beyond Valve; death on twenty-fourth day.*—G. F. D., a male, aged twenty-one years, came under my care in hospital in January, 1884. He was in the commencement of the second week of enteric fever. There were several well-marked roseolar spots. There was no diarrhœa after admission, except on the fifteenth day, when there were three motions, and enemata were frequently necessary to open the bowels. He complained much of pain in the back on the day after admission, and on the next there was abdominal pain, tenderness, and tympanites. The pulse was always over 100, and reached 142 on the evening of the twenty-second day. He passed restless nights. Retching and some vomiting commenced about the fourteenth day, and continued for four days, when it abated and did not recur.

On the fifteenth day the abdomen became enormously distended and tympanitic, and the eruption was profuse. The distension seemed to be relieved by turpentine. The twentieth day was marked by great restlessness and moaning; the abdominal distension again becoming excessive. From this time delirium set in, and there were occasional attempts to get out of bed. The temperature up to the twelfth day was high, hovering about 104°, sometimes below and at other times above this level. After this it assumed a lower level, till the evening of the twenty-second day, when it ran up to 109·4°, but was lowered to 102·8° by sponging. On this day there were abdominal pain, tenderness in the right iliac fossa, increase of tympanites, and muttering delirium. The intensity of the abdominal symptoms increased until the patient's death on the morning of the twenty-fourth day. Before death the aspect became very anxious, the pupils contracted, and the temperature rose to 106·2°. Morphin appeared to give a little relief to the distressing symptoms.

Post mortem.—The abdomen was enormously distended, and a small quantity of gas escaped on opening it. There was excessive distension of the transverse colon, which almost entirely concealed the rest of the abdominal viscera. Small slightly-congested patches were noticed on the peritoneal surface of the small intestine as it lay *in situ*. There was intense congestion of, and exudation of lymph on the surface of the cæcum and that portion of the small intestine that occupied the right side of the abdomen. Some hardish masses of fæces occupied the cæcum and the commencement of the colon. There was some superficial ulceration of Peyer's patches and of the solitary glands in lower part of the small intestine. The cæcum was studded by irregular patches of deep ulceration, and at the bottom of a deep ulcer, about two inches beyond the ileo-cæcal valve, there was a small perforation. The spleen was only slightly enlarged.

Shortly after the symptoms of perforation showed themselves in this case, the temperature became hyper-pyrexial, standing at

109·4° on the second day before death in the evening. This, however, was lowered in a satisfactory manner by sponging; but it rose again shortly before death to 106°. It will have been noticed that the perforation was situated in the commencement of the large intestine—a not very common place for it to occur. With reference to perforation, the late Dr. Hilton Fagge remarks—"The seat of perforation is almost always in the lower end of the ileum, within a foot or two of the valve. It is said to be sometimes in the cæcal appendix, or in the colon; but I believe that no instance of either kind has occurred at Guy's Hospital within the last twenty-five years."[a] Of a considerable number of autopsies made on patients dead of enteric fever, this is the only case of perforation of the large intestine I recollect to have seen, and I have never met with this lesion in the appendix.

Case V.—*Perforation three inches above Valve; plugged by omentum; death on eighteenth day.*—Joseph B., aged twenty-one years, was admitted to hospital on Dec. 29th, 1883, being about the ninth day of the fever, which commenced with slight rigors, headache, diarrhœa, anorexia, and restlessness. He had been going about his work till shortly before admission. Some gurgling in right iliac region was detected, and there was pain and tenderness over the region of the spleen. The right iliac region was tender on the eighth day, the abdomen became tumid, and three characteristic spots made their appearance. There was no diarrhœa throughout, except on the sixteenth day, when the bowels were opened four times. On the ninth day, the temperature having remained continuously between 104° and 105° since admission, kairin in five gr. doses was given every four hours, by which it was reduced in a satisfactory manner. On the ninth day he began to have restless nights, and slight delirium ensued, the pulse ranging from 112 to 120. About 6 p.m. on the evening of the sixteenth day severe pain over the lower abdominal region was complained of, the abdomen became more distended and tense, and vomiting commenced. On the next day the pulse ranged from 132 to 144, and was small and running; the extremities became cold, there was some muscular tremor and twitching, and the pupils became contracted. He occasionally fell into a sort of stupor. In the evening he was very restless and tossing about the bed, but could be roused from the semi-comatose condition into which he had fallen. The abdominal pain and tenderness continued, though relieved by opiates, and he died early on the morning of the eighteenth day.

Post mortem.—The small intestines were much distended by gas, and the omentum was adhering to them by means of a lymphy exudation.

[a] Principles and Practice of Medicine. London: J. & A. Churchill. 1886. P. 196.

One small portion of the omentum was firmly fixed deep down in the right iliac fossa to the small intestine, and required considerable force to separate it; this being done, a small roundish patch was found to be covered by a much thicker layer of lymph than the rest. The small intestines were more or less generally matted together by lymph, but to a greater degree at the lower part and deep down in the right side of the pelvis, and in their dependent portions were externally congested to a considerable extent, besides being covered by lymph. The congestion and amount of lymph increased as the cæcum was approached. In the two lower feet several of Peyer's patches and the solitary glands were ulcerated, and the sloughs had separated. An oval-shaped perforation, about half an inch long, and not quite so wide, was found about three inches from the valve. The piece of omentum, described as being more firmly adherent than the rest, was evidently acting as a plug to the perforation. The cæcum was occupied by extensive patches of ulceration. Many of the mesenteric glands were enlarged, and some of them cheesy. The spleen was slightly enlarged, of a dark colour, and somewhat soft. The liver was enlarged. The kidneys congested.

It would appear that this case is a very fair example of an attempt on the part of nature to effect a cure by adhesion, whereby the edges of the perforation became more or less closely connected with the omentum, which happened to be in the neighbourhood—the latter, as it were, acting as a plug to the opening.

Dr. Tweedie mentions a case in which "a bit of omentum plugged up the aperture."[a] Like most of the pioneers in the study of fever, this author does not seem to have distinguished between typhus and enteric fever, and he describes the case in which this plugging occurred as being one of typhus.

Case VI.—*Perforation eighteen inches above the Valve; death on eighteenth day.*—A. R., aged twenty-nine years, was admitted to hospital on August 21st, 1886, being the twelfth day of enteric fever; "she had taken to her bed" only two days before admission, although she had been ill since August 10th. During these ten days she had been up taking care of children, and was suffering more or less constantly from vomiting and headache. On admission the abdomen was swollen and tympanitic, the spleen was enlarged, and she complained of left hemicrania. Several enteric spots were noticed. Diarrhœa was profuse, and continued so for four days, when it was checked by lead and opium in pill. Pulse 108. At 9 a.m. on the fifteenth day there was a sudden complaint of pain and tenderness in right iliac region, and extending upwards. Coincident with the pain retching and vomiting of greenish fluid set in, and the pulse was

[a] Clinical Illustrations of Fever. 1830. P. 66.

136 and small. On the next day the pain had almost gone, but tenderness continued, as did the vomiting, but to a less degree. On the seventeenth day everything was vomited, and the right side of the abdomen was distended and very tender; pupils contracted; pulse 152. Vomiting continued to be most urgent till death on the morning of the eighteenth day.

Post mortem.—On opening the abdomen several coils of intestine were matted together by greenish-yellow flaky lymph. There was a small amount of purulent fluid in the pelvis. The peritoneum was injected, and the intestines distended. Several "typhoid" ulcers of various sizes, some with attached sloughs and others with clean floors, were seen in the ileum. At the bottom of a moderate-sized ulcer about eighteen inches from the valve a perforation was discovered; cæcum congested and thickened; spleen not enlarged.

The fact that this patient had been going about her work whilst suffering from enteric fever cannot but have been most injurious and probably tended to cause perforation. One so frequently sees patients dying shortly after their removal to hospital in the second or third week of the fever, that it is impossible not to come to the conclusion that such removal is in many cases the exciting cause of death. It will be easily understood that the jolting in an ill-constructed ambulance would certainly tend to increase the liability to hæmorrhage, perforation, or even excite peritonitis quite irrespective of perforation; or, again, it would increase the great nervous prostration from which some patients suffer.

The principal signs and symptoms that were noticed as being more or less common to all the cases I have narrated were—(α) abdominal distension, (β) diarrhœa, (γ) hæmorrhage, (δ) delirium, (ϵ) retching and vomiting, and (ζ) sudden onset of abdominal pain. These symptoms occurred with varying degrees of intensity in each individual case, and at different periods of the fever. Some of them were absent entirely, or were only very slightly marked in several of the cases. No single one of these symptoms can be considered as absolutely pathognomonic of perforation, and any one of them may occur during the course of enteric fever quite irrespective of this lesion. However, when sudden onset of severe abdominal pain, accompanied by retching and vomiting, and a state of collapse to a greater or less extent occur at any period after the commencement of the third week of the fever, one may be pretty safe in diagnosticating that perforation has taken place. It will be interesting to analyse the above symptoms, as they showed themselves in the six cases related.

Synopsis of Six Cases of Perforation of the Intestine in Enteric Fever.

Case.	Distension.	Diarrhœa.	Hæmorrhage.	Delirium.	Retching and Vomiting.	Sudden onset of Pain, &c.	Day of Death.	Nature and Position of Opening in the Intestine.
I. Male, aged 17 years.	Commenced at beginning of 2nd week.	Excessive all through the case.	Slight on 14th and 15th days.	Low form began at commencement of 2nd week.	More or less constant throughout.	On 15th day.	18th day.	A slit $\frac{1}{4}$ inch in length, about 1 foot above the cæcum in peritoneal coat.
II. Male, aged 31 years.	Scarcely any throughout.	Excessive from 18th day.	On 18th, 21st, and 22nd days. About 20 ozs. in all.	Low form, with nervous depression almost from admission.	None.	None.	40th day.	Circular perforation, about $\frac{1}{4}$ inch in diameter, 18 inches above valve.
III. Female, aged 28 years.	Slight.	None.	Slight on 10th and 11th days.	None.	Urgent on day of death.	Slight on 42nd day.	44th day.	Two perforations, one about 18 inches above valve, and the second a little higher up.
IV. Male, aged 21 years	Commenced in 2nd week, and was enormous on 15th day.	None, except to a slight extent on 15th day.	None.	Rather violent from 21st day.	On 14th day, lasting for 4 days.	On 22nd day.	24th day.	Small perforation about 2 inches *beyond* the valve.
V. Male, aged 21 years.	Commenced on 8th day. Slight.	None, except on 16th day.	None.	Slight on 9th day. Stupor towards the end.	On 16th day.	On 16th day. Severe.	18th day.	An oval perforation, about $\frac{1}{2}$ inch in length, 3 inches above valve, plugged with omentum
VI. Female, aged 29 years.	On 12th day. Present on admission.	Profuse at first, but was checked.	None.	None.	Commenced on 15th day.	On 15th day.	18th day.	Perforation about 18 inches above the valve.

CHART. *Showing the temperature curves from the time Perforation was Supposed to have occurred till Death.*

DAY OF FEVER	CASE I					CASE II				CASE III			CASE IV				CASE V				CASE VI				DAY OF FEVER
	14	15	16	17	18	37	38	39	40	42	43	44	21	22	23	24	15	16	17	18	15	16	17	18	
PULSE	93 100	93 88	100	96	14 138	128 156	150	130	132	132		140	112 116	116 142	136 136	140	100 102	120 126	132 144		136 118	132 160	152		PULSE
RESP.	25	15	—	28		24 IRREG.	32	28 30	44			48	32	32 46	40	40									RESP.
STOOLS	5	4	0	2		7	5	6		1	1						1	4	0		9	2	3		STOOLS.

TEMPERATURE – FAHRENHEITS SCALE

NOTE– *The Temperatures of all Fever Cases treated in Netherfield Fever Hospital were taken at 3.7 & 11. A.M. & P.M.*

(*a*). *Abdominal distension.*—This sign was present in all the cases, as indeed it usually is to some extent in every case of enteric fever, no matter how slight. In Case II. there was scarcely any throughout its course, and in Cases III. and V. it was noted as being only slight, whilst in Case IV. tympanites to an enormous extent existed. In the cases in which the onset of this sign was accurately observed, it commenced at some period during the second week (Cases I., IV., V., and VI.)[a]

(*β*). *Diarrhœa* was excessive in Cases I. and II.—in the latter after the eighteenth day only—and profuse in Case VI., but was checked by treatment. In Case III. there was no looseness of the bowels at all, and in IV. and V. none except to a slight degree on the fifteenth and sixteenth days respectively. Close observation has demonstrated the fact that there is no necessary connection between diarrhœa and the severity of the case. Some of the severest cases we have seen required frequent enemata to procure a motion.

(γ). *Hæmorrhage* from the bowels occurred in three cases—viz., I., II., and III. In Case I. it was observed on fourteenth and fifteenth days, in Case III. on tenth and eleventh days, and in both these it was only slight. In Case II. it was more profuse—about twenty ounces in all—and occurred on eighteenth, twenty-first, and twenty-second days, and probably conduced in a considerable degree to so far weaken the bowel as to make it more liable to perforation.

(δ.) *Delirium* was present in Cases I., II., IV., and V. to a greater or less extent. Thus, in Cases I. and II. it assumed a low form, whilst in Case IV. the patient became rather violent three days before death, and in Case V. it was slight, stupor supervening towards the end. There was no delirium in Cases III. and VI.

(ε.) *Retching and vomiting* were observed in all the cases except No. II. In Case I. it was a more or less constantly present symptom throughout, in Case III. it was urgent on the day of death (forty-fourth). In Case IV. it commenced on fourteenth day, and continued for four days, then subsiding, the patient dying on twenty-fourth day. In Case V. it set in two days, and in Case VI. three days before death.

(ζ.) *Sudden onset of abdominal pain.*—This symptom presented itself in all the cases except No. II. It was noted as being

[a] This observation concerning the onset of tympanites generally coincides with Murchison's experience. On Continued Fevers. Third Edition. P. 523.

"slight" in Case III., and "severe" in Case V. Its onset was two days before death in Cases III., IV., and V., and three days elapsed before the fatal termination in Cases I. and VI.

Death occurred in all the cases at varying periods after the commencement of the third week. Thus, on the eighteenth day in Cases I., V., VI., on the twenty-fourth in Case IV., on the fortieth in Case II., and on the forty-fourth day in Case III.

The position of the opening in the intestine was localised as follows—viz., in Case I. it was one foot above the ileo-cæcal valve, in Cases II. and VI. it was eighteen inches above the valve, in Case V. it was only three inches above, in Case III. there were two openings—one about eighteen inches above the valve, and another a little higher up, and in Case IV. there was a small perforation situated two inches *beyond* the valve in the cæcum.

We have referred before to the comparative rarity of perforation in the large intestine.

A careful scrutiny of the temperature charts of the cases related fails to afford any reliable data on which to depend in estimating the exact time at which perforation may have occurred. In this respect perforation presents a marked contrast with intestinal hæmorrhage, which is always (if to any considerable extent), accompanied by a very appreciable depression of temperature, often to below the normal line, and this although no blood may have as yet escaped from the bowel. In several cases of this description I have been able to prognosticate the passage of blood by detecting dulness on percussion along the course of the colon.

Of all the numerous complications which occur in the course of enteric fever, rupture or perforation of the bowel is most to be dreaded. It is impossible to say at what time a weakened part of the intestine may give way, and sound the death-knell for the patient. It often supervenes in the later stages of the mildest cases, and may even occur when the patient has entered on a satisfactory convalescence, and is up and going about. Four days is usually the longest period that a patient survives this accident, and he more often succumbs earlier (Murchison and Liebermeister).

With respect to the frequency of this lesion, Murchison[a] noted 48 cases in a total of 1,580, or 3·04 per cent. (nearly). The proportion observed by Griesinger was 2·3 per cent., and by Flint, 2·74 per cent. In 250 deaths Hoffmann noticed 20 instances, or 8 per

[a] On Continued Fevers. P. 565.

cent. of the deaths.[a] "In the hospital at Basle, during the years 1865 to 1872, there were amongst more than 2,000 typhoid fever patients 23 instances of perforation; or, if we include 3 that recovered, 26, or a little more than 1 per cent. of those having the fever."[b] There were 14 cases of perforation in 118 deaths (nearly 12 per cent.) observed by Griesinger.

Regarding the period at which it occurs, Murchison[c] says—"In 58 of my cases the date of its occurrence was determined as follows:—During the second week, 4 cases; during third, 13; during fourth, 16; during fifth, 13; during sixth, 8; during eighth, 1; during ninth, 1; and during tenth, 1." The position was localised by Hoffmann[d] in 18 cases as follows:—"Once immediately above the ileo-cæcal valve, four times at 4 to 6 inches above, nine times 8 to 20 inches, twice at $4\frac{1}{2}$ to 6 feet above, once at 10 feet above, and in one case there were twenty-five to thirty perforations in the jejunum."

There is a good deal of conflict of opinion amongst writers concerning the possibility of a patient recovering after an opening has been established in the bowel. Thus Louis, Chomel, Rokitansky, and Jenner[e] consider that it is always followed by an immediately fatal result. On the other hand, Tweedie, Todd, E. L. Fox,[f] Ballard,[g] Joseph Bell, Bristowe, Griesinger, Buhl, Thierfelder, and Morin record cases which they considered to have been recoveries from this most serious lesion. Murchison[h] records six cases (lxxv. to lxxx.) which he regards as, and which appear really to have been, recoveries. The method by which recovery takes place (when it does) would appear to be by means of adhesive inflammation, whereby the edges of the perforation become glued to the abdominal wall, to a neighbouring coil of intestines, or to some one of the other viscera. This adhesion is frequently followed by abscess, which, according to its situation, may burst externally, into the intestine, or into the peritoneal cavity; in the last case, I suppose, it must be of necessity fatal, except indeed abdominal surgery, which has latterly made such great advances, should step

[a] Liebermeister. Von Ziemssen's Cyclopædia. P. 151.
[b] Liebermeister. Loc. cit. P. 151.
[c] Loc. cit. P. 567.
[d] Liebermeister. Loc. cit. P. 182.
[e] 1853. P. 286.
[f] Brit. Med. Journ., June 8, 1861.
[g] Lancet, 1860, i. 422.
[h] Loc. cit. Pp. 578 to 580.

in and rescue the patient. It is quite possible to suppose also that adhesion may take place with the urinary bladder, a fistula be established, and fæces passed by the urethra.

From its nature the treatment of this lesion must of necessity be very unsatisfactory. It may be comprised in the word "rest." This rest should be general and, as far as possible, local. The patient must be kept perfectly quiet, and not allowed to move hand or foot, and the peristaltic action of the intestines and the abdominal pain and tenderness must be controlled by the free exhibition of opium. The ingesta should be very scanty, and small quantities of ice may be given to suck. In the foregoing few words is comprised the treatment of this terrible and well-nigh hopeless complication. However, the faint chance of adhesion taking place should impel the physician to carry out the treatment of rest most rigorously. Should his efforts not be followed by success, as indeed they are almost certain not to be, he will have the satisfaction of feeling that at least he has smoothed the downward course to the grave.

A warning given by the late Sir Dominic Corrigan will not inaptly form a conclusion to this paper:—"Recollect," he says, "with these ulcers or diseased follicles, how thin a layer of serous membrane literally stands as the barrier between life and death in this disease, whether death result from hæmorrhage or from perforation; and that a purgative or an article of diet injudiciously exhibited may at any moment cause the one or the other. There is, perhaps (we would say certainly), no other disease in which recovery, and even life, depend so much on attention to details of treatment, and on steadiness in withholding officious interference, no less than in judicious management."[a]

ART. VI.—*Death from Starvation.* By ALEXANDER PORTER, M.D., F.R.C.S.I., M.R.I.A.; Brigade-Surgeon, Madras Army; Principal and Professor of Medicine, Medical College, Madras; and Fellow of Madras University.

DURING the Madras famine of 1877–78 four men, four women, and four children, of those who came under observation, may be said to have died from simple atrophy. On admission, two of the men and three of the women complained of debility only; one man and one woman were brought

Disease complained of.

[a] Lectures on the Nature and Treatment of Fever. 1853. Sect. X., p. 99.

insensible and died directly; one man and one child complained of feverishness of some duration, but showed no rise of temperature after admission; one child was suffering from eczema of the side of face and neck; one had pain in and irritability of stomach, which ceased after vomiting a lumbricus; and the remaining child had ophthalmia and ulceration of the scalp.

Duration of illness. As to the duration of the illness, one man died insensible on the day of admission, and had no history; the other three had an average of 17 days in hospital and of 19 days' illness before admission.

One woman also died insensible on the day of admission, and had no history; the other three had an average of 23 days in hospital and of 23 days' illness before admission.

The children were, on an average, 7 days in hospital, and 5 days ill before admission.

Height. The average height of the men is 5 ft. 3 in., and of the women, 4 ft. 11 in. *Age.* On an average, the men were about 42 years of age, and the women about 55 years. Two children were about a year old, one was about 3 years, and one was about 8 years old. *Weight.* The men weighed on an average 70 lbs. and the women $66\frac{3}{4}$ lbs.

Rigor mortis. Rigor mortis had gone off only in one case 12 hours after death; in another it was still present 15 hours after death. The skin was usually covered with scurf, but the presence of itch was not noted. *Skin disease.* In a child there was eczema of the side of the face and neck; in another child there was ulceration of the scalp, and in this case and in another child there was injection of the conjunctivæ. There was œdema of the feet present in three men, three women, and a child.

Skull. The scalp was thin and pale, and on removing the calvarium no blood appeared on the meninges, as is usual when the sinuses are full, in two men, all the women, and all the children. In the other two men some blood flowed from the severed vessels on cutting through the scalp, and from the surface of the meninges and base of the skull on removing the calvarium and brain. In one of the other men a quantity of blood flowed from the base of the skull on removing the brain.

Arachnoid. On cutting through the meninges serum was found in the cavity of the arachnoid in all the men, three women, and two children; and it was found effused

under the arachnoid filling up the sulci of the brain in three men, three women, and one child. In one of the women the subarachnoid serum was blood-tinged.

Pia mater. The larger vessels of the pia mater were full in a man and two children, and the lateral veins only were full in two men. In one of the latter the membrane was purplish in colour, and in a woman it was whitish, as if sodden by the subarachnoid effusion. In this case there was a hard, round clot, the size of No. 1 shot, on the corpus callosum. In a man there were some blotches of ecchymosis on the sides of the brain; in a child there was slight ecchymosis near the longitudinal fissure in front, and in another the effusion was dark-coloured and considerable in quantity, quite filling the sulci of the posterior part of the right hemisphere of the brain.

Ecchymosis.

Brain substance. The average weight of the brain is $39\frac{1}{2}$ ozs. for the men, and 36 ozs. for the women. The substance looked healthy in three men and two children, and it was soft and anæmic in the others. In only one case was there any serum in the ventricles; this was a little whitish fluid, in a woman.

Pleuræ. The pleural sacs were quite healthy in all the children, two women, and one man, and they looked healthy but contained a pint of amber serum in a woman. In another woman there was about half a pint of serum in each sac, and in two men the sac was only moistened with serum. There were old points of adhesion in one pair and one right pleura in men, and in one right pleura in a woman; and the adhesions were firm and extensive in one pair and one left pleura in men, and in one left pleura in a woman.

Hydrothorax.

Adhesions.

Lungs. The lungs were quite healthy in only one man and three children, and the left lung in a woman. In the man and in the left lung in one of the children the bronchi contained a quantity of muco-purulent fluid; and in another of the children there was some hypostatic congestion present. The weight of the right lung in the man was $10\frac{3}{4}$ ozs., and of the left lung, $10\frac{1}{2}$ ozs.; and of the left lung in the woman, $8\frac{3}{4}$ ozs. In one child the lungs looked healthy, but on section they were studded with red spots, from which could be squeezed some serous fluid, as in incipient lobar pneumonia.

Congestion, with œdema. There was more or less lividity with œdema, mostly confined to the posterior border, of both lungs in a man and two women. The right lung weighed $13\frac{3}{4}$ ozs. in the man, and averaged 14 ozs. in two women; and the left lung weighed $11\frac{3}{8}$ ozs. in the man, and averaged $13\frac{1}{2}$ ozs. in the women.

Apneumatosis, with œdema. There was apneumatosis with œdema of some parts of posterior border—or, in one case, of lobules of the lung—in both lungs in two men and a woman, and of the right lung only in another woman. The average weight of the right lung is $14\frac{1}{2}$ ozs. in the two men, and $11\frac{1}{4}$ ozs. in the two women; and of the left lung, $12\frac{3}{4}$ ozs. in the two men, and in the woman it weighed $11\frac{3}{8}$ ozs.

Tuberculous deposit. In one of these men there was a tuberculous deposit in the apex of the left lung of the size of a walnut. It had a cavity in its centre, and the surrounding lung tissue was œdematous, but not congested.

Pigmentation. Pigmentation of the lung tissue was well marked in both lungs in a middle-aged man, and in the right lung in an old woman.

Pericardium. The pericardium was healthy in a woman and two children, and it looked healthy but was moistened with serum in three men, three women, and a child; in another child it was distended with pale serum, and in a man it contained two ounces of serum.

Heart. The surface of the heart was quite devoid of fat in two men and in all the children, and in the other two men there was only a trace of fat present; in the two former the fat was replaced by œdema. In all the women there was a moderate amount of fat present.

Fat.

Soldier's spot. The white detachable lymphy deposit known as the "soldier's spot" was present in two men. In one of these cases it was rather indistinct, and situated on the apex of the heart.

Cavities. The cavities of the heart were found empty in a man and three women, and they contained blood and clots in a man and in all the children, and the right side only contained blood or clots in two men and a woman.

Weight. The average weight of the heart is $4\frac{3}{4}$ oz. for the men and 5 oz. for the women.

Peritoneum. The peritoneum was quite healthy in two men, three women, and in all the children, and it was equally healthy in appearance, but contained serum in

two men and a woman; in one of the men the serum was a quart of slightly turbid fluid, in the other it amounted to only half a pint of pale straw-coloured fluid with a cloud of jelly-like lymph floating therein, and in the woman it was a pint of pale amber fluid.

Ascites.

The stomach was noted small in two men, three women, and in all the children, and large in a woman. It was quite empty in a man, a woman, and three children. It contained fluid, usually bile-tinged, in three men, two women, and one child, and it contained four lumbrici in a woman, and much gas in a man.

Stomach.

Contents.

The mucous coat was noted smooth in a man, two women, and a child, and rugose in two men, a woman, and three children. It was noted pale and thin in a man, three women, and three children, and congested red to livid in a man and a woman, and a child, and in a man it was pigmented in parts, but otherwise healthy-looking.

Mucous coat.

The small intestine contained yellow, bluish, or reddish fluid in a man, three women, and a child; in the others it was empty, except being distended with gas in a man and a child, being lined with green mucus in a man and two children, and containing lumbrici in one of these children, in a man, and a woman.

Small intestines.

Contents.

Lumbrici were found in five cases in all. There were six in a man, one in a child, 103 in a woman, not counting four found in her stomach, and two each in two other women.

Lumbrici.

There was some constriction of the ileum four feet above the valve from girdle ulcers encircling this part of the gut in a woman, and in another woman there was a small pedunculated fatty tumour also in the ileum.

The mucous coat was normally injected in two men and a child; it was anæmic in a man, a child, and all the women, and it was hyperæmic in parts of the ileum in a man and two children; in the former there were small spots of submucous ecchymosis in the ileum. In a woman and a child Peyer's patches were felt thickened and were pink to livid in colour. In an old woman there were seven black-based, thick-edged girdle ulcers, about an inch in diameter, and quite encircling the ileum, four were nearly close together at the fourth foot from the

Mucous coat.

Ecchymosis.

Tubercular ulcers.

valve, and caused partial constriction of the gut. There was pigmentation of parts of the ileum in a man, and all through in a woman. It was slightly œdematous in a woman.

Pigmentation œdema.

The large intestine contained some fæces in a woman and a child, and in all the others it was empty, except that there were adherent scybala in a man, a film of dry fæces in another, and green mucus in a child, and it was distended with gas in a man and a child. There were two small fatty tumours in the colon in a woman. The mucous coat was normally injected in two men and a woman; in the latter there was some lividity of the cæcum, and the rectum was red and swollen. It was anæmic in two men and two women, and in a woman there were livid spots in the transverse colon, and in a woman livid streaks in the cæcum. It was injected deep rose to red in all the children; in one the mouths of the follicles were red punctated, and in another there was thickening, with papillation in the rectum.

Large intestine.

Mucous coat.

There was pigmentation, giving the mucous coat a more or less slaty coloration in a man and a woman.

Pigmentation.

In a man there were small superficial livid-edged ulcers, with scybala adherent in the cæcum and ascending colon, and in another man there were two or three small circular superficial pale-based ulcers in the sigmoid flexure, and in a woman there were similar ulcers of the mouths of a few follicles. Diarrhœa was noted only shortly before death in one of these men, and obstinate constipation of some duration in the other.

Ulcers.

Diarrhœa.

There was a little fat in the mesentery of one of the men and three women, but none in the others. In one of the children the fat was replaced by œdema.

Mesentery.

The mesenteric glands were of about their normal size in a man, three women, and all the children; in one of the latter they were injected red. They were much enlarged in one of the men, and atrophied in two men and a woman.

Glands.

The liver was small in all these cases, weighing only $24\frac{1}{8}$ oz. in the men and $23\frac{1}{2}$ oz. in the women. There was abnormal adhesion between the capsule and parietes by two points of old standing, with dragging out of the hepatic tissue beneath into teat-like processes in a

Liver.

Adhesions.

woman. There was atrophy of the margin of the left lobe in three men. The substance was anæmic in all except one child.

Structure. Its structure was normal in a man and a child, and in the others it was fatty and of an ochrey yellow colour. In one of the men it was deeply pigmented and less fatty than in the others, and in one of the children a clear fluid flowed from the cut surface, which coagulated on standing, the liver surface being one mass of fat cells. In one of the slightly fatty livers in women the section was pale and studded with small circular spots like fish roe, the nature of which was not clearly made out by the microscope, and two very fat livers in women looked cirrhotic when cut.

Albuminoid degeneration was looked for in all and found in none.

Gall-bladder. The gall-bladder was empty in a man; it contained green bile in two women and three children, thin brown bile in a man, thick tarry bile in a man, oil-like

Contents. fluid in a man, two women, and a child; in two men and one of the women it was turbid.

Spleen. The spleen varied in weight in the men from seven drachms to $3\frac{1}{4}$ oz., the average being $2\frac{1}{4}$ oz., and in the women from $\frac{1}{2}$ oz. to $5\frac{3}{4}$ oz., the average being

Capsule. $2\frac{1}{4}$ oz. The capsule was thickened in points where adherent to parietes in a man. The substance was

Pulp. firm, not friable, and deficient in pulp, with no exudation under pressure in three men, two women, and all the children, and in a man and two women it was easily friable into a brown pulp like thin jam.

Kidneys. In the men the weight of the right kidney ranged from $2\frac{1}{8}$ oz. to $3\frac{3}{8}$ oz., the average being $2\frac{5}{8}$ oz. nearly, and that of the left from $2\frac{1}{4}$ oz. to $3\frac{3}{4}$ oz., the average

Weight. being $2\frac{3}{4}$ oz. fully. In the women the weight of the right kidney ranged from $1\frac{1}{2}$ oz. to $2\frac{1}{2}$ oz., the average being 2 oz. fully, and that of the left from $1\frac{7}{8}$ oz. to $3\frac{3}{8}$ oz., the average being $2\frac{1}{2}$ oz.

Surface. The capsule stripped easily, except in a man it was slightly adherent. The surface was studded with small cysts in two men and a woman. The substance

Substance. was anæmic and fatty in three men and all the women. Desquamation cells were abundant in a man and a child.

Pancreas. The pancreas weighed on an average $1\frac{1}{2}$ oz. fully in the men and $1\frac{3}{8}$ oz. in the woman. Its structure appeared healthy in all.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Climatic Treatment of Consumption: a Contribution to Medical Climatology. By James Alex. Lindsay, M.A., M.D., Physician to the Consumptive Hospital, Thronemount, Belfast; Assistant Physician to the Belfast Royal Hospital; Consulting Physician to the Ulster Hospital, Belfast. London: Macmillan & Co. And New York: 1887. 8vo. Pp. 228.

Without fear of contradiction, we make bold to say—*in limine*—that this is an excellent book. Its subject-matter is well arranged and embodied in terse, clear language; it rivets the reader's attention while it can scarcely fail to instruct even the most erudite student of Medical Climatology.

The keynote to the "manner" of the book is struck in the opening words of the Preface. The volume "is the fruit of a personal experience of home and foreign sanatoria for consumption, which special circumstances have rendered unusually ample." Dr. Lindsay has made two voyages to Australasia. During these he has visited Adelaide, Melbourne, and Sydney, making on various occasions long journeys into the interior of Australia, and twice visiting Tasmania. He has travelled through New Zealand, and visited such distant lands as Cape Colony and California. He has twice visited the Mediterranean, and has wintered in Algeria. The chief health-resorts of Southern France and Northern Italy are personally known to him. He has visited Davos, Wiesen, St. Moritz, the Maloja, and other Swiss sanatoria, while he has personal knowledge of the principal home health-resorts. The author has strictly adhered to the rule that his book should be based upon personal observations, and so there is in it no detailed reference to such important health-resorts as Madeira and Egypt. At the same time he has not been slow to consult standard authorities upon the subject of which he treats, so that the work may be regarded in a twofold light—as a faithful record of personal observation and experience, and also as a well-written *précis* of Medical Climatology.

The volume consists of sixteen chapters. In the first we are presented with an able sketch of the causes of consumption, in which Dr. Lindsay makes no attempt to distinguish predisposing from determining causes. He observes :—

"As regards the question of the contagiousness of consumption, it still remains *sub judice;* and although Koch's demonstration of the invariable presence of the bacillus in tubercle has led to the subject being thoroughly reconsidered, little new light has been cast upon it. A few cases have been brought forward in which it is difficult to gainsay the operation of contagion, but such cases are infinitesimally few compared with the overwhelming number in which every opportunity for contagion is present without result. Two conclusions on the subject seem certain; first, that contagion occurs, if at all, only among those who are closely and habitually associated, especially husband and wife; and secondly, that where ventilation and other hygienic measures are observed, there is little, if any, ground for apprehension.

"Whether the bacillus is related to tubercle as cause or accidental concomitant, is still quite uncertain. The specific lines of treatment which have been devised on the theory that its destruction is the object to be attained have not hitherto led to much result; but Koch's discovery has at least served the useful end of accentuating the views of the profession regarding the essential importance of a pure atmosphere in the prevention and cure of pulmonary consumption."—Pp. 16 and 17.

We have quoted these paragraphs at length, because we think that in them Dr. Lindsay has carried to too great a length his scepticism as to the active part played by the *Bacillus tuberculosis* in the ætiology of tubercular pulmonary consumption. Every physician to a large general hospital must have met with cases where husband and wife have succumbed to this dread disease—one at no long interval after the other; and where the evidence amounted to almost positive proof, that husband had infected wife, or wife had infected husband. Not long since an instance came under our own observation, in which a mother who devotedly nursed her young daughter, the subject of tubercular phthisis, herself contracted the disease, and preceded her daughter to the grave. And certainly our experience has led us to question very seriously the propriety—nay, the *legality* (under the Public Health Act) of treating undoubted cases of tubercular disease of the lungs in the wards of a general hospital, no matter how well ventilated and how hygienic these may be.

To our mind, Dr. Lindsay's argument that *specific* treatment,

having for its object the destruction of the bacillus of tubercle, has practically failed, proves nothing except that the term "specific" was misapplied. The haunts of the bacilli are not so easily explored, their strongholds are not so speedily taken by storm by agencies falsely or in error vaunted as specifics. At the same time we are not of "those who think that the discovery of the invariable presence of a bacillus in tubercle has solved the whole question of the causation of consumption."

On two points we are thoroughly agreed with Dr. Lindsay—first, that hereditary predisposition is a most powerful factor in the ætiology of consumption; and secondly, that a pure atmosphere is essential in the prevention and the cure of pulmonary phthisis.

Indeed, so strongly do we hold this latter doctrine that it is with much misgiving we admit to hospital patients threatened with, or in the early stages of, consumption. No matter how large and well-ventilated the wards of a general hospital in a city may be, the atmosphere, the surroundings, and the associations of the place are all alike unsuited for the treatment of such patients. It is earnestly to be hoped that the time is not far distant when consumption no less than smallpox will be refused admission to a general hospital—and this for two reasons: first, because in consumption there is a certain risk of infection—far less no doubt than the risk in smallpox, but none the less appreciable; but, secondly, because hospital air, however pure, is the worst possible for phthisical patients to breathe.

The second chapter sets forth the general principles of the climatic treatment of consumption. Dr. Lindsay embodies them in a series of aphorisms, as follow :—

"*α*. Climatic treatment aims at the removal of the patient from those climatic conditions which predispose to bronchial and pulmonary inflammations, and hence indirectly to consumption.

"*β*. Climatic treatment aims at removing the patient from a climate which induces an indoor and sedentary life to one where an outdoor life of healthful activity may be continuously enjoyed, without hindrance from meteorological conditions.

"*γ*. Climatic treatment aims at removing the patient from a comparatively sunless and depressing climate, which impairs vitality and lowers nutrition, to a sunny and tonic climate where appetite, digestion, and sanguification undergo such augmentation as may enable the patient to shake off or hold at bay the tendency to consumptive disease.

"*δ*. Climatic treatment aims, or should aim, at removing the patient

from among crowded populations and vitiated air to some region where there is no aggregation of large masses of people, and consequently no pollution of the air of respiration.

"ε. Climatic treatment aims at removing the patient from the injurious influence of a damp soil and of imperfect sanitation.

"ζ. (not 'η,' as Dr. Lindsay wrongly writes the sixth letter of the Greek alphabet) Lastly, climatic treatment aims at giving the patient the great boon of change—change of air, change of diet, change of scenery, change of daily routine, change involving the abandonment of many an injurious habit, which has long been the secret minister of disease. It is hard to estimate how much of the immense benefit often derived from climatic treatment finds in this consideration its probable explanation."—Pp. 20 and 21.

According to the author, climates which benefit consumption are found to fulfil one or both of the following indications:—

"α. The improvement of the local condition, which means mainly the alleviation of the bronchial catarrh accompanying consumption, as we have seen how slight is the direct influence of meteorological states upon the local tubercular deposits.

"β. The improvement of nutrition and constitutional vigor."—Pages 23 and 24.

He adds: "These two indications, while not incompatible, are by no means universally associated."

This chapter and that which succeeds it, and which gives a general view of the chief sanatoria for consumption, are probably the most valuable in the book. When writing on climate, Dr. Lindsay acknowledges his indebtedness for many of his facts to Hermann Weber's work in von Ziemssen's "Handbuch der Therapie."

As regards their physiological effect, it has been suggested that climates should be divided into—

A. Tonic and Relaxing, according as they tend to increase or impair the activity of the nutritive processes, and

B. Stimulant and Sedative, according as they tend to excite or soothe the activity of nervous processes.

"This," observes Dr. Lindsay, "is a tempting classification; but it will not bear strict analysis;" and so he adopts the division of climates into—

1. The Oceanic Climate.
2. The Marine Climate.
3. The Climate of Deserts and Inland Plains.
4. The Climate of High Altitudes.

By the "Oceanic Climate" we are to understand that of the high seas, to be enjoyed in perfection only on shipboard, but found approximately in the oceanic islands. The "Marine Climate" is that of the seaside, usually on the seaboard of some continent or large island. Examples of both oceanic and marine climates are too obvious to require a more specific description. We have examples of the "Climate of Deserts and Inland Plains" in Egypt, the interior of Algeria, the Orange Free State, the Riverina and the Darling Downs of Australia, and various districts in the Western States of North America. The "Climate of High Altitudes" is exemplified in the mountain sanatoria of the Alps, the Rocky Mountains, the Andees, and, we would add, the Himalayas.

If we attempt to analyse the physiological action of the four types of climate just described, we have to consider their influence on (1) digestion, and (2) the nervous system. As regards their influence upon digestive functions climates are either tonic or relaxing. The high altitude and the oceanic climates are decidedly tonic—the desert climate and dry marine resorts are less decidedly tonic. The moist marine resorts are instances of relaxing climates. All the tonic climates have two characteristics in common—namely, purity of atmosphere and abundance of sunlight.

According to their influence upon the nervous system we divide climates into stimulant and sedative, or those which respectively increase and diminish nervous action. In the former class we include the climate of high altitudes, of dry marine resorts, and of the desert; in the latter the climate of the moist marine resorts and of the ocean.

In the chapters which follow the three introductory ones we have been noticing, the author deals exclusively with those health-resorts and forms of climatic treatment of which he has had personal experience. He observes that—

"Both on the ground of novelty and intrinsic importance, the high altitude sanatoria may fairly be accorded precedence; the sea voyage follows as possessing high and undisputed value; Australia and its neighbouring Colonies come next as the natural goal of the sea voyage, and California, the Cape, Algeria, Southern France and the British sanatoria complete the volume."

The substance of the fourth chapter, on the "Mountain Sanatoria," appeared in the *Lancet* as a series of articles upon "The High Altitude Treatment." In it Dr. Lindsay very fairly criticises the reputation now enjoyed by Davos in the mountain

treatment of consumption. He believes that there is a risk of "overcrowding" in this Alpine valley, or rather that the evils of overcrowding may make themselves felt at Davos because of the stagnation of the air in winter, the large amount of fuel consumed, the air-contamination due to the presence of many consumptives, the difficulty of securing thorough ventilation, the pulverisation of infective sputa owing to the dryness of the air, the presence of numerous cattle, and the accumulation of their dejecta. These are considerations which are deserving of the most earnest attention by physicians and patients alike. At the same time, Davos is undoubtedly one of the most useful high level health-resorts in the world in suitable cases, such as old pleurisies and unresolved pneumonias, which threaten to become tubercular, and consumptives who exhibit a "torpid reaction." Dr. Ruedi also has remarked that cases of consumption, where there are profuse hæmorrhages, with slight evidence of disease, do remarkably well at Davos.

One of the most entertaining and best written chapters in the book is that on "The Ocean Voyage" (Chapter V.). Every line contains intrinsic evidence of personal experience, and this imparts a peculiar charm to the story the author has to tell. He has made four long sea voyages of an average length of over ten thousand miles each, so that we listen to him with respect when he says that "for the consumptive, the Australian voyage is to be preferred," and that "he will be well advised, in the majority of instances, to choose a sailing ship in preference to one of those fast steamers, which now appear almost to annihilate distance, and to bring the antipodes to our very doors." Dr. Lindsay's arguments in favour of a well-found sailing vessel are conclusive and convincing.

Chapters VI., VII., and VIII. treat respectively of Australia, Tasmania, and New Zealand. As to Australia, it has its merits and demerits from the point of view of the invalid:—

> "The climate is one of high average healthfulness, but the heat of summer is excessive, and the hot winds and dust storms are both a danger and an annoyance. The climate of the coast towns is subject to sudden perturbations, and cannot be highly recommended; but the great inland plains constitute a health-resort of high value and proved efficacy."

"It is but just to add," remarks Dr. Lindsay, "that the hospitality of the Colonists is boundless."

The author speaks in glowing terms of the natural beauty of

Tasmania and New Zealand, as contrasted with their "great and prosperous, but uncomely neighbour," Australia. In describing the climate of the triplet of beautiful islands, to which fate "has given the ridiculously inappropriate name of New Zealand," and in comparing it with the climate of European countries in corresponding latitudes, he points out that it is necessary to recollect that the southern hemisphere is, *cæteris paribus*, colder than the northern. He remarks that this contrast in climate has been variously explained, but the fact itself is certain. The cause is certainly a twofold one—first, the greater expanse of water in the southern hemisphere, which checks excessive summer heat; and, secondly, the coincidence of the earth's greatest distance from the sun with the southern summer.

Loud as he is in the praises of the scenic beauty of the great "Fern Land," Dr. Lindsay speaks very doubtfully of New Zealand as a home for the consumptive, or even as a place for his temporary sojourn.

There are four short chapters on California, the Cape, Algeria, and Southern France, as health-resorts in consumption. The southern littoral region of California is rapidly taking a foremost place among the salubrious marine climates of the New World. Its characteristics are intense dryness, an equable temperature—warm winters and summers of moderate heat, and freedom from high or dangerous winds. The author has little good to say of the Cape, "the fame of which as a sanatorium for consumptives belongs to a past generation." Cape Town, in particular, comes in for his unsparing strictures. On the contrary, he speaks highly of Algeria with its brilliant sunshine and pellucid atmosphere—or, as he phrases it, "luminous air." The increasing reputation of Algeria and Morocco has "relegated the South of France to a subordinate position among the health-resorts for consumptives."

Chapter XIII., on the "Home Sanatoria," is perhaps the most disappointing in the book. Torquay, St. Leonards and Hastings, Grange (in Lancashire), Rothesay, Glengarriff, Queenstown, and Rostrevor, are disposed of within the limits of a single page; and Ballybrack, Co. Dublin—to our mind one of the finest of home health-resorts for winter residence—is not even mentioned. We cannot help thinking that, in this instance, Dr. Lindsay is the slave of fashion; but happily, in Chapter XV., on "Invalid Travel," he seals his recantation when he writes: "It is a great, but common, error to imagine that foreign countries abound in

marvels, and must continually excite our astonishment. As a plain matter of fact, few countries are so uniformly charming, so abound in cultured beauty and the accumulation of objects of interest, as the British Islands. . . . Let the invalid, then, start with no extravagant expectations, else he will soon say with Touchstone,

"'When I was at home I was in a better place.'"

In concluding this notice, we would wish to direct attention to the excellent Chapter (XIV.) on "The Choice of Climate in Consumption," in which the author gives a succinct account of the various recognised types of the disease—viz., Chronic Tubercular Phthisis, Hæmorrhagic Phthisis, Acute Pneumonic Phthisis, Chronic Tubercular Pleurisy or Pneumonia, Fibroid Phthisis, Catarrhal Phthisis, and Laryngeal Consumption. After a brief description of each variety, the climates suitable for its treatment are mentioned in more or less detail.

Nought remains but to congratulate Dr. Lindsay upon the manner in which he has written this book. It is alike creditable to him and to the great medical school of Belfast, of which he was once a distinguished pupil, and is now a still more distinguished teacher.

RECENT WORKS ON HEALTH-RESORTS.

1. *Carlsbad: its Thermal Springs and how to use them.* By J. Kraus, M.D., Resident Physician in Carlsbad. Third Edition, revised and enlarged. London: Trübner & Co., Ludgate-hill. 1887. Royal 8vo. Pp. 138.
2. *The Mineral Waters of Vichy and the Diseases in which they are indicated, followed by a Sketch of some of the Principal Excursions in the Environs.* By Dr. C. E. Cormack, Consulting Physician at Vichy. London: J. & A. Churchill, New Burlington-street. 1887. Royal 8vo. Pp. 375.

1. The popularity of Carlsbad, the great Bohemian watering-place, is best shown by the fact that the number of visitors had increased from 7,969 in 1865 to 15,642 in 1875, and amounted in 1885 to 20,815; and this great progress is partly owing to increased appreciation of the merits of the waters and partly to the establishment of railway communication, for it is only in recent years that the iron horse invaded the town. Dr. Kraus commences with a his-

torical and topographical description of the "Bad," in which he mentions that previous to the time of the Emperor Charles IV. the spa was known as "Warmbad"—a singularly appropriate designation, which might with advantage have been left unchanged. His topographical notes are meagre. For instance, about the way of getting there, he simply says (p. 3)—"Railroads connect Carlsbad in every direction." We may mention that the simplest way of going to Carlsbad is by Brussels, Cologne, and Frankfort; it can be reached comfortably from Dublin in three days, at a travelling expense of under ten pounds. Dr. David Becher appears to have been the physician who first correctly described the medical uses of Carlsbad, and his analysis of the waters—made in the middle of the last century—is singularly correct, when we consider the low ebb of the chemistry of that period. There are fifteen springs in Carlsbad, all presenting more or less the same saline and alkaline composition; the saline constituents are sodium and potassium sulphates and sodium chloride, and the alkaline salts are sodium, calcium, and magnesium carbonates. The principal differences appear to be in the temperature at which the water issues from the ground, varying from the Sprudel at 162° F. to the Russische Krone at 95° F.; and in the quantity of free carbonic acid contained, the proportion being always in the inverse ratio to the heat of the water. The most remarkable of the springs is the Sprudel, which comes in intermittent gushes out of the earth, evidently under the influence of heat expanded gas, or possibly steam. It appeared to us that Carlsbad is situated over a huge volcanic depôt of heated mineral water, and the earth crust seemed in places to be unsatisfactorily thin; in a few days, however, we ceased to trouble ourselves about this risk. There is a chapter on the preparation of Carlsbad salt, which was made from the Sprudel water as far back as 1733, by Dr. Borries. Strange to say, the local political economists objected, lest strangers should be contented with it, and cease to come; and it was not until 1761 that Dr. Becher obtained Government authorisation to produce it, and it is now exported at the rate of fifty tons annually, along with millions of bottles of the waters. Another chapter is devoted to the baths, of which there are seven sorts, including peat and mud baths. The great drawback of the place is the want of proper drinking water, and this is the more felt by the visitors as their supplies of alcohol, even lager beer or light wine, are either cut off or strictly limited. The well-water is simply

medicinal, and the supply of rain water is scanty. A supply of good potable water could be easily obtained from the surrounding hills, but this has not been done, and the only resource of the visitor is the bottled water of the Giesshübler Sauerbrunn, obtained in the locality, and somewhat resembling Apollinaris water. Dr. Kraus's chapters on the diseases relieved by his springs are excellent, and bear the stamp of truth and accuracy, and not the least creditable of them is the one headed "Contra-indications" (p. 79), in which he describes the conditions under which the Carlsbad waters "may prove decidedly injurious." In diabetes mellitus they are very beneficial, numbers of persons being found who by a month annually spent there are kept for the rest of the year in health and comfort, and without any undue restrictions of their diet. Abdominal plethora, gastric catarrh, habitual constipation, and tendency to ulceration of the stomach are much relieved; but the liver is the offender most amenable. Congestion of this organ, occasioned by high living and alcoholic indulgence—a state of things generally accompanied by passive congestion of the mesenteric veins, by splenic trouble, and by piles—yields at once to Carlsbad; and the earlier stages of cirrhosis are benefited. Gall-stones are also greatly benefited, although it is hard to explain the exact *modus medendi;* and Dr. Kraus gives a most interesting case (p. 59) of the wife of a physician, who had consulted nearly all the medical celebrities for wasting, constipation, and continual rejection of food by vomiting. An unanimously unfavourable prognosis was given, and as an *ultimum refugium* the patient tried the Carlsbad waters. Dr. Kraus detected a deep-seated tumour, which he considered to be carcinomatous degeneration of the pancreas. After a course of Carlsbad water this patient was not relieved, but shortly after her return home passed a great number of gall-stones the size of beans, after which there was rapid improvement and ultimately complete recovery. Catarrh of the bladder, prostatic disease, and numerous uterine diseases are also benefited, as is the malarial cachexia. In cases of gout great relief is derived both from the baths and from drinking the water, and the benefit is not only curative but preventive—in fact, a gouty patient, by an annual visit and by home moderation, can effectually keep the *dira podagra* at bay. There is a capital chapter (p. 94) on what to eat, drink, and avoid, and the meal-times and daily habits are carefully noted down. Speaking generally, it may be observed that Carlsbad is dangerous to persons

suffering from pulmonary consumption, cardiac disease, Bright's disease, carcinomatous tendency, or with affections of the brain or spinal cord. It should be always kept in view that the waters of Carlsbad are an edged tool, and should never be taken without competent local medical advice.

The work appears to be written by Dr. Kraus in a language which to him is a foreign one; and if this be so we cannot speak too highly of the way in which he has accomplished his task. The English is excellent, with here and there some quaint expressions, as at p. 10, where CO_2 is designated as carbonate acid, instead of our more familiar carbonic. A more comic instance is at p. 7, where the author speaks of the services of Dr. Becher in promoting Carlsbad, and says that they have secured to him the grateful remembrance of his native town. His "*well hit bust* adorns the new Sprudel colonnade." This expression "well hit" graphically photographs the impression produced on the Teuton mind by the sight of the mallet and chisel process of the sculptor. The expression is an odd one.

A real want—the only real want in the book—is that there is no description of the walks and drives about Carlsbad, which are numerous and interesting. We would particularly notice Giesshübler, already referred to, about eight miles off, and which is one of the most charming spots that can be imagined. We would caution the pedestrian not to lose his way, for Academic German will not be of much service in the country environs. Lastly, should the visitor go into lodgings, he must be very careful in making his bargain. The local regulations are very strict, and are decidedly unfavourable to the stranger—of this, however, Dr. Kraus gives fair warning. Unless for large families the hotels will be found just as cheap as lodgings. The cure-tax must be paid by every stranger who remains longer than a week, and that whether he uses the waters or not. It varies from 16 to 6 Austrian florins (from 32 to 12 shillings), "according to the means of the visitor." This is an unsatisfactory scale, but in this also our author sounds the note of warning.

2. Vichy, the well-known French spa, is situated on the right bank of the river Allier, and in the Department of the same name, and is 237 miles south-east of Paris, a distance which is covered in seven hours and forty-two minutes by the express train. The town is a very handsome one, and lies in a valley surrounded by hills, and

at the foot of the great Auvergne mountains. It owes a great deal to the foresight and energy of the late Emperor Napoleon III., who may be said to have been its second founder. Before the time of that monarch, the Allier used from time to time to overflow its banks; and between it and the town lay a long range of marshy sand-banks. The Emperor caused to be constructed a splendid embankment, two kilometres in length, and extending from the southern to the northern ends of the town. The space of marshy sand thus taken in has been converted into the magnificent New Park which lies between the river and the town, and faces the west, and a more charming afternoon resort could hardly be found. At its southern end the Park of the Célestins and the Park Lardy open into it, and it is within a quarter of a mile of the old park, situated above the centre of the town. The climate is good, and the supply of mineral water is unfailing. This water is highly alkaline, so much so as to have a soapy taste as soon as the contained carbonic acid has escaped, and always to have a soapy feeling when rubbed between the hands. This alkalinity arises from the presence of sodium bicarbonate to the extent of $4\frac{1}{2}$ to $5\frac{1}{2}$ grammes to the litre—about $1\frac{1}{2}$ drachms to the pint. Iron is found also in variable quantities, its ratio apparently depending upon the amount of carbonic acid present, that amount being of course dependent upon the temperature of the water as it issues from the earth. Arsenic is found in a minute but appreciable quantity, in the form of sodium arseniate, and to the extent of from one to three milligrammes to the litre. The amount of dissolved salts given out by the Vichy waters is very great, and has been estimated by M. Bouquet at 1,861,230 kilos. per annum; and in 1885 the Thermal Company made up for export no less than 19,112 kilos. of this salt. The temperature at which the water issues from the earth varies in the different springs from 50° F. to 115° F., the hotter springs being always much more abundant. In regard to alkalinity, all the springs are practically the same; but in some of the springs, which apparently follow a longer course under the ground, there are slight differences, especially in regard to iron, organic matter, and sulphur. This latter element is present in some of the springs in the form of sulphuretted hydrogen, the presence of which is proved by the immersion of silver articles, and, in fact, can be detected by the sense of smell. It will thus be seen that, contrasting the waters of Vichy with those of Carlsbad, the former are the richer in the alka-

line salts of sodium, the latter in the aperient sodium sulphate, and chloride. There are nine springs in Vichy which are the property of the State, and about twice as many belonging to private individuals. In fact, the number of these springs might be indefinitely multiplied; for in almost any part of the town the process of boring to the necessary depth is instantly followed by the outflow of an Artesian well; and this is so much the case that public authority has long since prohibited further boring within the town or within a radius of ten kilometres thereof. In 1852, M. Dufrenois, Inspector-General of Mines, presented to the Minister of Agriculture and Commerce an able Report upon Vichy, in which he mentions that Vichy stands in the centre of a valley surrounded by hills and filled with alluvial soil; and that between this alluvial soil and the upper soil is a layer of impermeable red clay at a considerable depth. The rain-water from the surrounding hills percolates into the alluvial soil under the red clay, as into a vast sponge, and cannot rise to its level owing to the impermeable character of the clay. Whenever that clay is bored, the imprisoned water rushes violently to the surface in the effort to attain its level, and the natural springs are evidently accidental leaks in the clay crust. The heat and salines come from below, and are easily accounted for when we remember that the whole district is the cooling area of an extinct volcanic range, of which Puy de Dome was the centre. It is further believed that the waters take hardly anything from the upper soil, which is of a clayish and calcareous description. Of course the river Allier, being a natural surface open water-drain, has nothing to say to the matter. This is important, as a good supply of water for domestic purposes is obtained from the river at the works above the town.

Speaking of Dr. Cormack's work it may be observed that, as the author mentions, it is more addressed to the public than to the medical profession; and is, in fact, a species of medical guide-book. It enumerates the diseases for which Vichy is useful; and foremost among them are gout and gravel. It is useful in diabetes mellitus, but not to the same extent as Carlsbad. We doubt its efficacy in Bright's disease; the great quantity of sodium bicarbonate must be thrown off by the kidneys, and such an extra amount of work can hardly be serviceable to diseased organs. In all the varieties of anæmia it is very useful, on account of the iron and arsenic; and in some varieties of this disease the fibrin-reducing powers of the sodium will be found useful. In malarial diseases Vichy is

potent on account of its arsenic; and this has been thoroughly proved in the military hospital by the relief obtained by soldiers invalided from Algeria on account of intermittent fever. In diseases of the spleen, as in uterine diseases, much benefit has been obtained; and it is said to be good for chronic dysentery. In irritation of the bladder and urinary passages it is useful from its power of keeping the urine in an alkaline state. With regard to the liver, Vichy appears to give enormous relief to sufferers from gall-stones, as could be easily imagined from its sodium richness; but there the catalogue ends. In hepatic congestion and enlargement, the result of over-eating, alcoholic indulgence, and want of exercise, there is no doubt that Carlsbad, Homburg, or even Harrogate, are vastly more potent.

The second part of the book, from page 235 to page 365, is a guide-book to all the places of interest about Vichy. It is very interesting and well written, and includes an array of old towns, feudal castles, and cathedrals—all of great interest and but little known to the English reader. A great curiosity is the Source Intermittente de Vesse, a few hundred yards from the fine bridge of Vichy, which conducts the traveller from the town to the western bank. This "Source" is a regular Iceland Geyser in miniature, and by an ingenious arrangement, described by Dr. Cormack, the periods of its spouting can be ascertained, and due notice given in the Casino. This Casino is a very fine establishment, and contains within it all the means of amusing, and of providing for, the traveller. A very interesting excursion is that to Clermont-Ferrand and the neighbouring baths of Royat, so potent in eczema, and to the extinct volcano of Puy de Dome. All these may be visited and the return to Vichy made in a long day; but it is better to take two days to it. In the second part every information is given to the visitor—railroad times and rates, cab and carriage fares, French money and measures, hotels, lodgings, boarding-houses, *et omnia talia.*

The waters of Vichy are used for drinking and for baths. When the latter are first used they sometimes produce a peculiar and very unpleasant cutaneous irritation and eruption, which, however, soon passes away. Their popularity appears to be steadily increasing. The number of visitors in 1865 was 19,092; in 1875, 28,777; and in 1885, 46,477. Of this number the French visitors were over 41,000; English, 2,103; Spaniards, 1,754; and Germans only 114. It is to be feared that international considerations

sometimes enter into bath selection. The waters of Vichy when bottled keep their properties for a very long time, and are exported on a great scale to every part of the civilised world.

Dr. Cormack has accomplished his task very well. His book is neatly and accurately printed, and is provided with two good maps. At page 24 there is something which, although not a mistake, is misleading. At page 13 he had given the quantity of sodium bicarbonate contained as from $4\frac{1}{2}$ to $5\frac{1}{2}$ grammes per litre, which is quite correct; but at page 24 he states that "every quart contains 4·883 gr. of soda bicarbonate." We were at first disposed to consider the gr. as a typographical error, until a close examination of the very full and accurate tables contained between pages 24 and 25 showed us that gr. stood here for grammes. We venture to predict, however, that three-fourths of the readers of the book will understand 4·883 gr. as grains.

At page 19, Dr. Cormack cautions his readers not to use the waters unless under medical advice; but we fear that his extensive details of popular medicine are calculated to tempt adventurous souls to try their own hand. He very properly remarks that numbers of persons suffering from irregularities of diet and of living get great relief from the waters of Vichy and from the diet recommended to them. Too many of the sufferers thus relieved, on leaving Vichy, return to the violet path of their evil ways, and get worse than ever. We fear that this sage remark applies to many other places besides Vichy.

F. J. B. Quinlan.

The Healing Art; or, Chapters upon Medicine, Diseases, Remedies, and Physicians, Historical, Biographical and Descriptive. London: Ward and Downey. 1887. Two volumes. 8vo. Pp. 693.

The objects of this unnecessarily anonymous work are stated, in the preface, to be the presentation, "in a popular and condensed form," of "a general view of the progress of Medicine from the days of its infancy as a Healing Art; and to combine with this historical relation brief biographical sketches of the eminent men who have contributed to that progress by their genius and devotion." Both objects are attained, and with a considerable degree of success. The work, if not lively, is useful and interesting. In Vol. I. the chapters, or portions of chapters, relating to touching

for the King's Evil (p. 53), on great epidemics (p. 112), and on delusions (p. 203) will repay perusal. As to the first of these subjects we learn that Edward the Confessor first undertook the cure of scrofula by his royal touch, in 1058; that the saintly Charles II. operated on over 92,000 patients in twenty years; that William III. called the practice "a silly superstition," adding, "give the poor creatures some money and send them away;" and that once only he was persuaded to touch a patient, to whom he said, "God give you better health and more sense;" and that the practice died with Queen Anne, who touched, amongst others, Samuel Johnson. In the eighth chapter, Paracelsus' recipe for "weapon-salve," which cured a wound by being applied to the weapon which had produced it, is given in full. The first ingredient—"moss growing on the head of a thief who has been hanged and left in the air"—will, we fear, be difficult to procure in these days; but it, and others (as warm human blood and human suet), may probably be omitted if the wound itself is treated according to directions. It was "to be washed with fair clean water, bandaged with a clean, soft linen rag, and opened once a day for the purpose of cleansing." Paracelsus died in 1541; but in 1657 Sir Kenelm Digby assured "a solemn assembly of Nobles and Learned Men," at Montpellier, that a wound would immediately begin to heal if a shred of clothing stained with the blood were dipped in a solution of his Sympathetic Powder—provided the patient cast away all his plaisters and kept the wound clean and in moderate temper between heat and cold. Some good stories enliven the chapter on English Physicians of the Seventeenth Century—as, for instance, the occasion of Radcliffe's dismissal from his position as Court Physician. The hard-drinking William III. returned from Holland in 1699 with swollen legs, and asked Radcliffe his professional opinion. "I would not have your Majesty's two legs for your three kingdoms," was the unsatisfactory reply.

We had thought that the glorification of Sir J. Simpson for the discovery of anæsthetics, because he re-discovered, and first practically applied, chloroform, was out of date; but here (II., 244) the old delusion reappears. Although it is stated plainly enough that ether had been successfully employed by Simpson himself in childbirth, subsequently to Morton's use of it in dentistry (in 1846) and Liston's in surgery, yet we are told that chloroform "has enabled the surgeon to perform the most severe operations

with an ease and certainty which were impossible under previously-existing conditions"! Does it "still hold the field as the best and easiest anæsthetic"? We are not sorry to find that that ill-conditioned celebrity, Abernethy, was not an Irishman. His grandfather (Mr. Webb informs us in his "Compendium of Irish Biography") was a distinguished Presbyterian divine, born at Coleraine, but the surgeon was a Londoner. Some of the old anecdotes are given. This one we had not seen before:—He offended deeply a fox-hunting squire by saying, as soon as he entered his consulting room, "I see you drink hard." "Now, suppose I did," complained the patient, "what the devil was that to him?"

This book, with its chronological arrangement and an index to each of its two volumes, will be found useful for reference, and pleasant for intermittent reading. It is obviously written for non-professionals by a non-professional; but practitioners of "The Healing Art" may also draw profit from its pages.

Pilocereus Senilis and other Papers. By WALTER MOXON, M.D., F.R.C.P.; Physician to and Lecturer on Medicine at Guy's Hospital. London: Sampson Low, Marston, Searle and Rivington. 1887. Pp. 262.

WE must confess that we closed this collection of papers with a feeling of disappointment. The whimsical title—the eponymous plant may be seen in the Glasnevin Botanical Gardens—and some of the notices in the London press probably led to exaggerated expectations. The three longer papers—on "Art and Science in Medicine," "The Biologist and the Physician," and "Alcohol and Individuality"—will repay perusal better than the shorter papers reprinted from *Guy's Hospital Gazette.* In the second of the former, the Annual Address delivered before the Hunterian Society in 1877, he does battle with John Stuart Mill—*impar congressus Achilli!*—who denies the applicability of the experimental method to the complicated problems of therapeutics. In this, too, he tells an amusing story illustrative of the value of museums. Dr. Moxon had occasion to spend the working days of four months—from 10 a.m. to 4 p.m.—in the Hunterian Museum. During all that time he saw a scientific inquirer but *once.* This solitary seeker after truth had made a bet that woodcocks had no bowels, and visited the Museum for corroboration of his views.

He went away, after an interview with our author, dissatisfied. "He wouldn't believe me, and did not conceal that he thought nothing of a museum which had not a woodcock so prepared as to answer his question." The papers abound with quaintnesses and bits of quiet humour, sugaring solid thought; but some of the latter is a little difficult of digestion, and the artificial colloquialism of the style does not help but rather hinders. The author has passed beyond praise or blame since his little book was published, and his many friends will rejoice to possess a memorial such as this of a kindly, learned, shrewd, and accomplished physician.

Anatomy: Descriptive and Surgical. By HENRY GRAY, F.R.S. Eleventh Edition. Edited by T. PICKERING PICK. London: Longmans, Green & Co. 1887. 8vo, pp. 978.

[*Second Notice.*]

THE section on MYOLOGY contrasts very favourably with the corresponding portion of any of the other English treatises. The usual muscular attachments are given with a very fair degree of accuracy, the illustrations are copious and distinct, and an almost exhaustive list of the principal relations is furnished in each case. Still a certain proportion of looseness of description occurs here and there. The aortic opening of the diaphragm is placed *behind* the muscle, not in it, and is described as osseo-aponeurotic in structure. We object to this delineation; the crura, as every careful dissector knows, really meet behind the opening; the right crus especially sending an expansion to meet and overlap its fellow of the opposite side. We may further note in this connection that the opening is limited in front, not by tendinous fibres of the crura only, but more immediately by muscular fibres connecting them—a fact first specially noticed by two distinguished Dublin anatomists, Dr. Edward Stoker and Professor Bevan. The opening is accordingly *musculo-tendinous* in structure. The left sympathetic nerve is made to pass occasionally through the aortic opening, while the right is said to pierce the right crus. As either sympathetic almost invariably passes under the internal arcuate ligament, those statements represent a considerable amount of carelessness.

The description of the insertion of the pectoralis major is hopelessly muddled, as it is in nearly all English text-books of anatomy. The fibres of the upper and middle portions of the muscle are said to be inserted into the lower part of the bicipital ridge; those of

the lower portion into the upper part. The fibres of the upper part of the muscle are really inserted high up on the ridge, although not highest, and the inaccuracy is evidently caused by ignoring the fact that the clavicular fibres, not being folded, are inserted in the order in which they arise, while the costo-sternal fibres are inserted in the reverse order.

In the arrangement of the muscles of the forearm, we would like to see all authorities follow the example of "Ledwich's Anatomy" by distributing them in three layers—the second being formed by the *flexor sublimis digitorum*, which undeniably forms a perfectly distinct stratum. We fail to see why the *anconeus* muscle continues to receive a separate description in so many text-books. Of the four anconei muscles described by Winslow, three (*major*, *externus*, and *internus*) have been added up to make the *triceps extensor cubiti* of modern anatomists; while the *anconeus minor* is allowed to retain the old name, with the dignity of a separate muscle. It is, however, as every careful observer knows, as much a part of the large extensor of the elbow as any of the other three heads. The editor has not followed the leadership of "Quain's Anatomy" in uniting the psoas and iliacus into one muscle—perhaps not injudiciously. They are, however, described as a conjoint muscle by the leading Continental authorities. Why the psoas parvus is still carefully described—in a treatise professing to reject muscular anomalies—we are unable to perceive.

The description of the annular ligament of the ankle-joint, especially of the anterior, might easily be improved.

The section of ANGEIOLOGY is not relatively so complete as the preceding ones. The common carotid, external carotid, lingual, and other arteries might, with advantage, be divided into the stages usually recognised by Dublin anatomists. The coloring of the illustrations, introduced for the first time in this edition, will be a very great help to the student in tracing the course and relations of each vessel. Many of them occurring in this section are very instructive indeed, and do much credit to both artist and publisher.

The account of the venous system, although improved, is still very imperfect, as it is in all our English text-books. That of the cerebral sinuses is much modified from the older editions, and most of the changes correspond to the descriptions of a source well known to us, but to which no reference whatever is made.

The section of NEUROLOGY is, upon the whole, very satisfactory.

The text is fairly accurate, the illustrations numerous and clear, and vastly improved by the introduction of colours. The cerebral convolutions are pretty well described, although the figures are ultra-diagrammatic. The *lobulus paracentralis* of Betz is unnoticed; so is the *ansa of Broca.*

The internal anatomy of the cerebrum is somewhat better done than the external, but there is still a considerable margin for improvements.

The illustrations of the cerebro-spinal nerves throughout the body are very instructive, and with the accompanying descriptive text can be confidently recommended.

The colouring of the figures in the illustrations of the nerves makes them very useful as an aid to the descriptions given in the text, the coloured lines being so much more easily followed by the eye.

The mythical "*ganglion of Ribes*" is mentioned with a considerable amount of respect, although we are informed in a note that "the existence of this ganglion is doubted by some observers."

The Officinal Materia Medica. By Frederick T. Roberts, M.D. Second Edition. London: H. K. Lewis, 136 Gower-street, W.C. 1887. Cap. 8vo. Pp. 543.

This handy little work is useful to the student preparing for his examination, and to the practitioner as a book of reference in which he will find, in a very brief compass, all information as to the nature, doses, and uses of the various articles contained in the new British Pharmacopœia. The first 47 pages are devoted to a general view of Materia Medica and Pharmacy, the nature of the various preparations, and the manner in which they are handled by the dispenser. Their chemical character is well explained—and this is a subject on which there is some confusion even among educated physicians, many of whom are in the habit of designating as "balsams" copaiba and other articles which have no pretensions to that title. From pp. 48 to 234 the medicines belonging to the inorganic kingdom are succinctly described as to their composition, preparations, tests, and actions. They are arranged in twelve sections, the members of each section being placed in alphabetical order, which at once gives a clear notion of their chemical composition and facilitates reference. From 261 to 496 are placed medicines of vegetable origin in an order partly botanico-chemical

and partly pharmaceutical—a procedure which, although not quite so handy for reference as a mere dictionary order, is very useful for giving correct views as to their exact nature and origin. From 497 to 508 are described the few articles of Materia Medica derived from the animal kingdom. From 509 to 533 is a summary of the officinal preparations of the British Pharmacopœia most admirably arranged, and invaluable to the student preparing for his examination. The book concludes with an appendix of tests so contracted as to be practically useless, and with a very good index. In the account of pharmacopœial powders (p. 19) no effort is made to explain the three standards of the fineness of powders adopted by the present Pharmacopœia. These standards are partially hidden by being described in the preface of the last edition of the British Pharmacopœia, and at a recent large examination we questioned the candidates with reference to them without receiving an answer from any—in fact the matter appeared to have been completely overlooked both by candidates and teachers. Not but the British Pharmacopœia description is very imperfect, consisting as it does of an instruction to pass the powders through a row of wires of ordinary thickness (whatever that may mean) arranged 20, 40, or 60 wires to the "linear" inch. The proper method would be for the Pharmacopœia to direct the powders to be sifted through brass or copper gauze of a definite wire thickness (No. 32 Birmingham gauge would be the best), and of a definite number of meshes to the square inch. This plan would secure in every pharmacy three gauzes of exactly the same standard of sifting capacity, instead of the present rather indefinite plan. Speaking generally, we can commend Dr. Roberts's book. It is nicely brought out, and is printed with great correctness—we did not observe a single typographical error.

The Surgeon's Pocket Book. By the late Surgeon-Major J. H. PORTER. Third Edition. Revised and edited by Brigade-Surgeon C. H. Y. GODWIN, Assistant Professor of Military Surgery, Army Medical School, Netley. London: Charles Griffin & Co., Exeter-street, Strand. 1887.

THIS well-known pocket book has now reached a third edition. We have already spoken in praise of it. Since the former edition it has in some parts been re-written, and in general it has been brought up to the present date. It is, of course, specially adapted

to the use of army surgeons on active service, and as it is truly a pocket book it is admirably adapted for its purpose. It contains a surprising amount of information. The editor has done his work in a very effective manner.

Lewis's Pocket Case-book for Practitioners and Students. Designed by A. F. Brand, M.D. London: H. K. Lewis. 1887.

This neat little Case-book resembles a Visiting List in size, and may be carried as a pocket-book or laid upon the consulting-room desk. It is intended for jotting down the salient points of cases in concise notes taken at the time of examining the patient, so that the physician or surgeon can refresh his memory without delay at a subsequent interview.

An alphabetical index comes first, and the remainder of the Case-book is divided into spaces, each of four pages, for the entry of the number, name and address, age and occupation, social state, and complaint, &c., of the patients; the date when he has been seen, the leading symptoms referable to the digestive, nervous, respiratory, circulatory, urinary and generative system; the diagnosis, the treatment and subsequent clinical history of each case.

We can heartily recommend this ingenious little Pocket Case-book, for it supplies—and well supplies—an admitted want of the busy practitioner. The cost is trifling.

Practitioner's Handbook of Diseases of the Ear and Naso-pharynx. Third Edition of the "Aural Surgery." By H. Macnaughton Jones, M.D., M.Ch., M.A.O. (Hon.). London: J. & A. Churchill. 1887.

The third edition of this excellent manual, which has now appeared, is well calculated to maintain, or even increase, the reputation which it already possesses. The author has evidently bestowed considerable care on his work, and, while endeavouring to render it as complete and systematic as it is possible for such a handbook to be, he has not forgotten the more important duty of making it practical; consequently, theoretical discussions are avoided, and only such anatomical details as have a practical bearing are touched upon. "Those diseases of every-day occurrence, for the treatment of which all practitioners are being constantly consulted," are principally dealt with, and the author aims at simply pointing

out "the leading principles which should guide the surgeon in arriving at a quick and safe diagnosis."

Attention is drawn in the introductory chapter to the neglect of the special branches of ophthalmology, otology, and laryngology in the schools. Whatever blame may be attached to English institutions in this respect, as far as the first two subjects are concerned, the Irish schools do not deserve censure. Ophthalmic surgery has been for some years a subject of special examination, either theoretical or practical, in the University of Dublin and in the Royal College of Surgeons of Ireland, and quite recently both have been included in the curriculum and examinations of the Conjoint Scheme of the Colleges of Physicians and Surgeons, and have also been similarly recognised by the Royal University of Ireland.

The book has undergone a complete change both in its outward appearance and in its internal organisation. Although it is published in a much cheaper form than the previous edition, the subject-matter has been so thoroughly re-arranged that it would be impossible here to notice all the alterations which have been made. The chapters contributed by other distinguished writers are still retained, and the series of notes on aural therapeutics from *The Practitioner* have been interpolated.

Amongst the subjects which have been most improved upon may be mentioned the chapters on Ætiology, General Therapeutics, and Tinnitus; in the last a very exhaustive table of the pathological causes of this most distressing symptom is given.

Many new illustrations have been added, especially in the chapters on Diagnosis and General Therapeutics, as well as two coloured plates from the author's Aural Atlas, representing the commonest affections of the membrana tympani. These are already well known to aural surgeons and require no further notice; but Figs. 96–99, representing affections of the external ear, might have been omitted without loss, as they do not convey much information from a diagnostic point of view.

The appendix of therapeutical formulæ, at the end of the book, forms a very useful addition, and one which, we are sure, will be appreciated. The index is complete as well as accurate. A few misprints occur here and there which might perhaps have been avoided; such a misprint, in one instance at least, leads to contradictory statements—namely, on p. 97, where the removal of foreign bodies by means of the syringe alone is highly approved as being

the safest and most successful method; but near the bottom of the page the author is made to say—"Only on rare occasions have I succeeded in removing a foreign body by syringing, and I have never failed with patience in the case of any patient brought to me."

The book has, however, produced a very favourable impression upon us, and we have no hesitation in conscientiously recommending it as a reliable and inexpensive handbook.

On the Diagnosis of Diseases of the Brain, Spinal Cord, and Nerves. By C. W. Suckling, M.D. London: Lewis. 1887. Pp. 297.

This little work is founded on a course of post-graduate lectures delivered by the author at Queen's College, Birmingham. It is intended for students and busy practitioners who have not time to read the large works on nervous diseases with which our literature at present so abounds. By these classes and by all those who are commencing the study of diseases of the brain and cord this book will be found useful. The descriptions are short, clear, and accurate. The details of the cases are well given, and the text is illustrated by several fairly-executed drawings.

Abdominal Surgery. By J. Greig Smith, M.A., F.R.S.E.; Surgeon to the Bristol Infirmary. London: J. & A. Churchill, 11 New Burlington-street. 1887. Pp. 606.

We are glad for various reasons to receive this book. It is often difficult to say why an addition is made to our already crowded professional literature; but it may be safely said that there is a distinct place for this. The abdomen is a newly-discovered area for the exercise of surgical skill—some will say of experiment; and it is most important that all who enter upon it should know as much of it as the experience of others can tell us. But that experience has hitherto been scattered in a fragmentary way through periodicals, if we except the books which have been written upon the surgical diseases of the ovaries and uterus. Here we have the whole subject of abdominal surgery treated in a comprehensive fashion, and by one who is entitled to speak from an experience that is varied and extensive.

We are further glad to note that the book is not the work of a specialist. The gentlemen who are just now disputing with the

gynæcologists the right to this particular region of the body will hardly be gratified to find that a general surgeon has entered the lists and can show results as good and as startling as the best of them. If the theory that no general surgeon ought to venture upon incising the peritoneum were true, we ought to have a very disastrous record here; but, on the contrary, Mr. Greig Smith is known to have achieved marked distinction in operations upon the abdominal viscera, as well as in the departments of ordinary every-day surgery.

The writer does not deal in detail with the ætiology of diseases which affect this region, but confines himself to a description of the normal anatomy of the part to be operated upon, and then to the steps of the operation itself. Thus all the operative procedures in connection with the uterus, ovaries, kidneys, stomach, intestines, &c., are minutely described, and in language both forcible and picturesque. We should like to transfer to our pages the chapter on "Abdominal Operations considered generally." It is the best which we have read anywhere in relation to this subject. We believe that the greater part of the mortality with which general surgeons are sometimes charged is simply due to a want of attention to certain details which are a necessity in abdominal surgery; and it is just this attention which frequent repetition makes almost a routine with the "specialist" and largely aids in his good results. Here, at all events, the surgeon who attempts operations on the abdominal cavity will find cautions which he should be thoroughly acquainted with; and he will be encouraged by the results which they have brought to one who makes no claim to specialism.

We think this book not only highly creditable to its author, but also to English surgery. No one will read it without feeling that he has before him a story of the personal work and experience of a surgeon of great ability and accomplishments. It will show, too, that not all acumen and boldness are to be found in a metropolis, but that in provincial schools, too, there are men who can lead us in the paths of wisdom.

PART III.

HALF-YEARLY REPORTS

REPORT ON OPHTHALMIC SURGERY.

By Arthur H. Benson, M.A., F.R.C.S.I.; Ophthalmic and Aural Surgeon to the City of Dublin Hospital; Assistant-Surgeon to St. Mark's Ophthalmic Hospital; Examiner in Ophthalmic Surgery to the Royal College of Surgeons in Ireland.

[*Concluded from page 32.*]

ANATOMY.

Much good work has been done in this direction, and recent researches on the anatomy of the parts concerned in squint operations are of especial importance. Dr. C. B. Lockwood, of London, in his article in the *Journal of Anatomy and Physiology*, has, by means of frozen sections and most careful special dissections, cleared up many uncertain points. His article is on the "Anatomy of the Muscles, Ligaments, and Fasciæ of the Orbit, including an Account of the Capsule of Tenon, the Check Ligaments of the Recti, and the Suspensory Ligament of the Eye."

(1) With regard to the origins of the ocular muscles he has little to add to the received account, but he shows that we have been in the habit of looking at only one side of these origins. Their orbital surfaces, he says, look fibrous, and seem intimately blended with the sheath of the optic nerve, and the fibrous tissue which surrounds the optic foramen; from their inner ocular aspect they look tendinous, and may be said to arise by a superior and inferior common tendon.

(2) The chief interest of the communication lies in the account of the capsule of Tenon. This structure, as ophthalmic surgeons well know, is of much practical importance, but our knowledge regarding it is of the most meagre and unsatisfactory character. Lockwood describes it as a fibrous capsule which surrounds the globe from the ciliary margin of the cornea backwards to the entrance of the optic nerve; its anterior third intimately related

to the back of the ocular conjunctiva; its middle third sending prolongations to the muscles of the eye; its posterior third in contact with and loosely adherent to the orbital fat. In addition, it is attached in a manner subsequently indicated to the inner and outer sides of the orbit, and is continuous posteriorly with the sheath of the optic nerve, being adherent for about the space of a quarter of an inch round the margin of the lamina cribrosa.

(3) Six muscles receive prolongations or sheaths from the capsule of Tenon—the four recti, the superior and inferior oblique. These prolongations spring from the middle third of the capsule, and pass backwards along the recti as far as their middle, where they blend with their perimysium. The sheath for the superior oblique surrounds its reflected tendon as far as the pulley and is there attached. The prolongation to the inferior oblique descends upon the muscle as far as the floor of the orbit. By means of expansions from their sheaths the internal and external recti are connected with the lachrymal and malar bones. These expansions, of which the external is the stronger, are partly muscular. They have been called the internal and external check ligaments, and were supposed by Tenon to alter the direction of the muscles and so prevent them, when in action, from pressing on the globe. This latter function from their attachments Lockwood denies to them, but he considers that they certainly limit the contraction of their respective muscles.

(4) The sheath of the superior rectus is intimately connected superiorly with the connective tissue sheath of the levator palpebræ, also with the tendon of tbe superior oblique, and sends muscular fibres on to the palpebral aponeurosis and superior tarsal cartilage. The palpebral aponeurosis, or anterior expansion of the levator palpebræ, is attached on each side of the orbit, and hence it acts as a check ligament for both the superior rectus and the levator, producing the visor-like action of the upper lid.

(5) The sheath of the inferior is, in a somewhat similar manner, connected with the connective tissue sheath of the inferior oblique, but it also forms by a splitting from its under-surface "the suspensory ligament of the eye."

(6) This is a band of fibrous tissue, stretched like a sling from one side of the orbit to the other, inserted into the malar and lachrymal bones, and forming a shallow cup in which the eye rests. It is intimately blended with the under-part of the capsule of Tenon, and will support the eye in position after excision of the

superior maxilla, although subsequent cicatrisation may drag it down. Anteriorly it is attached to the inferior tarsal cartilage, and it is through this connection that the inferior rectus is able at the same time to depress both the cornea and the lower lid.

(7) The inner surface of the tough, matted membrane described above as the capsule of Tenon is, according to Lockwood, lined with loose areolar tissue, which surrounds the sclerotic and intra-capsular portions of the muscles. The first has been termed "tunica vaginalis oculi," or "tunica albuginea." The second Lockwood proposes to call "tunica adventitia oculi." The ocular edges of the slits in the capsule of Tenon, through which the muscles pass, are thickened into what he terms "intra-capsular ligaments," sufficiently strong, in his estimation, to act as pulleys, protecting the globe from pressure during the action of the muscles. Lockwood gives several figures illustrating the points discussed in his paper, and he also furnishes full quotations from the works of Tenon, Bonnet, Ferrall, and Lenoir (*Oph. Rev.*, Vol. V.).

Concerning the anatomy of the iris and the much-discussed question of the mechanism of dilatation of the pupil investigation has been busy. Professor Fuchs, of Vienna, (v. Graefe's *Archiv.* and *Klin. Monatsbl. f. Augenheilk*) has added the weight of his opinion, formed after careful and laborious investigation, to those who hold that there is no special set of muscular fibres for producing dilatation of the pupil. In other words, that the muscle described as the dilator iridis has no existence. After an account of the anatomy of the iris in other respects, the changes associated with contraction and dilatation of the pupil were studied by Fuchs both in the living eye, and, so far as was practicable, in microscopic preparations. In the healthy living eye variations of the pupil from 1·25 to 9 mm. may be obtained with eserin and atropin. After death the greatest differences in the *post mortem* preparations were 1·7 and 5·5 mm., and Fuchs found, as Ulrich had previously done, that atropin used immediately before death effected no lasting dilatation.

When the pupil contracts, all the zones of the anterior surface, including the black border of the pupil, become broader. The sphincter also, as may be sometimes seen in light-coloured eyes, increases in width, though less in proportion than the rest. The small circle, which with a medium-sized pupil stands over the outer edge of the sphincter, is now removed outwards from it. The whole of the tissues are stretched in a radial direction; the

vessels are straightened; the circular furrows are flattened; the zigzag outline of the small circle becomes more pronounced; the crypts in its neighbourhood are drawn out into narrow slits, or almost closed. The marginal zone is brought more into view as it is drawn out from under cover of the sclera. The radial folds of the posterior surface become steeper and more prominent, while the circular furrows, like those of the anterior surface, are flattened out. Radial sections show that the thickness of the membrane is reduced during contraction of the pupil by $\frac{1}{3}$ to $\frac{1}{5}$.

When the pupil dilates, the changes are the opposite of those just described. The pigment border becomes narrower, and with wide dilatation disappears entirely; the small circle changes from a zigzag to a prominent ring, which overlies the sphincter; the vessels become strongly convoluted, the furrows very deep; the crypts open more widely, or, with extreme dilatation, are transformed into slits in the opposite direction, and have then an area not larger than in medium dilatation; the peripheral zone disappears entirely behind the sclera. The circular ridges on the posterior surface become more prominent; the fine radial folds in the pupillary zone flatten out, and, with wide dilatation, probably disappear entirely. The membrane thickens, the increase being chiefly in the pupillary zone, so that in section it has now a club-like form.

The above-named changes show that the posterior limiting membrane is the only structure which takes an active part in causing dilatation of the pupil, for it is the only one which is not thrown into folds when the pupil dilates. The pigment layer is drawn back from the margin of the pupil, because it is closely adherent to this membrane. If the dilatation were caused by the contraction of any tissue lying in front of the posterior limiting membrane, the pigment layer would tend rather to protrude than to disappear. The blood-vessels cannot be concerned in dilating the pupil, for they are thrown into strong convolutions, and manifestly tend to displace the stroma towards the pupil, as compared with the posterior limiting membrane. Dilatation of the pupil can, therefore, be due only to a contraction of this membrane. Whether the action is one of simple elasticity or whether it depends on active contraction must at present remain an open question, for there are obstacles to the acceptance of either view. On the one hand, we know that when the action of the sphincter is absolutely in abeyance through paralysis of the third nerve atropin still

increases the size of the pupil, and a similar phenomenon is presented in the horseshoe-shaped enlargements produced by atropin in a pupil, the greater part of which is adherent to the lens; this looks like active contraction of a muscular tissue. On the other hand, the posterior limiting membrane is certainly not of a muscular nature, for it possesses no nuclei and its fibres differ in other respects from those of muscle. Are we justified in ascribing to such a tissue the function of active contractility?

Changes in the size of the pupil are associated with changes in the superficial openings of the lymph channels, which traverse the substance of the membrane. Thus, when the pupil contracts, the apertures in the pupillary zone become narrower, and those at the periphery enlarge; when the pupil dilates, the opposite changes occur. The existence of these channels and their free communication with the anterior chamber are facts of much physiological importance. They doubtless favour the gliding of one layer of the membrane on another, which occurs with alterations in the pupil, and they are concerned in the interchange of fluids in its tissues. Hitherto it has been assumed that the whole of the iris-lymph finds exit through the meshes of the ligamentum pectinatum, but this is certainly incorrect; normal lymph and also exudations of blood and serum in inflammatory states pass along the channels in the substance of the iris, and through their open mouths into the anterior chamber. It is probably through these channels also that the iris absorbs morbid fluids from the anterior chamber; the white corpuscles wander outwards from the vessels, take up foreign particles, and ultimately return with them into the circulation. The movement of fluids in the channels is doubtless expedited by contraction and dilatation of the pupil. The changes of the intra-ocular pressure which are caused by atropin and eserin are probably to some extent dependent on the anatomical features here described (*Ophthalmic Review*).

VISUAL TROUBLES IN EXOPHTHALMIC GOÎTRE.

From observations made upon thirteen cases, Dianoux, of Nantes, concludes that exophthalmic goître is generally associated with more or less eye trouble, due to disturbances of innervation. He divides these troubles into three classes—viz., those of movement, nutrition, and vision.

The *motor* disturbance is usually an incomplete paralysis of accommodation, productive of asthenopia, and often associated

with mydriasis. This asthenopia is remarkable for its sudden appearance and for its variations during different stages of the disease. Vasomotor paralysis are referred to under the same heading.

Nutritive disturbance is seen in the occurrence of a form of keratitis resembling the neuro-paralytic variety. Irido-chorioiditis and œdema of the retina and disc are also met with.

Acuteness of vision may be diminished to $\frac{1}{5}$ or $\frac{1}{10}$, while the field of vision for white remains normal. In one case the field for green was larger than that for red; in another there was a central scotoma (the patient was a man employed in a wine tavern).

In the treatment of the disease Dianoux has obtained benefit from the following remedies:—Pressure upon the eyes and in some cases blepharoraphy to protect the cornea; ergot for fifteen days, followed by duboisin for a similar period to the extent of producing a slight toxic effect; quinine and iron, hydropathy, and the continuous current (*Ophthalmic Review*).

ON CHROMOPHOBIA, OR DREAD OF COLOURS.

R. Hilbert (*Centralbl. f. prakt. Augenheilk*, Feb., 1886, p. 43) holds that cases of chromophobia, though they have been rarely recorded as such, are not very uncommon, and that they deserve attention as examples of perversion of the colour-sense. In the cases to which he refers, pathological changes in the visual organs are not discoverable, and the morbid sensation does not occur as a subjective phenomenon independent of objective colours; in the persons affected, an objective colour produces an excessive and disagreeable effect.

The first recorded case is by Woinow (v. Graefe's *Archiv.*, XVII., 2, 1871); the subject of it was a colour-blind person specially affected by red. Hasner published three cases, presenting dread of white, dread of red, and dread of blue respectively (*Centralbl. f. pr. Augenh.*, 1881, p. 1). Schröter followed with two cases: dread of blue in a patient with atrophy of the optic nerves, and dread of red in an otherwise healthy man (the same, 1881, p. 61). Mayerhausen described two more cases of dread of red, in nervous and highly excitable persons (the same, 1882, p. 48). To these eight cases Hilbert now adds another.

A student, twenty-six years of age, came to consult him on account of a chronic follicular conjunctivitis. A sheet of carmine red paper happened to lie upon the table. The patient started

when he saw this, closed his eyes, and begged that it might be removed. He stated that from the earliest childhood the sight of red objects, clothes and such like, had distressed and excited him. Other colours, shining surfaces, and bright light caused him no inconvenience. The patient was a small, weakly man of restless and excitable temperament, and somewhat hypochondriacal. He had a slight myopia, with normal acuteness of vision; the media and fundus were healthy in both eyes.

In the cases hitherto recorded, including Hilbert's, red was the colour dreaded in six cases, blue in two, and white in one; whether other colours ever have a similar effect there is no evidence to show. In all the cases but two the eyes themselves appeared to be healthy, but in every case there was a certain over-excitability and nervousness of temperament, and this, no doubt, underlies the special liability to excessive impression in the visual centres. The author regards the symptom as a central one, and not as a sign of disturbance in the retina.

ON THE RELATION OF UTERINE DISEASE TO ASTHENOPIA AND OTHER AFFECTIONS OF THE EYE.

T. R. Pooley, New York (*New York Medical Journal*, Feb. 1886, p. 179) gives, with some detail, records of twenty cases illustrating the connection above named, and concludes his paper with the following summary of the facts which they appear to teach:—

1. In certain cases there is a direct relation between irregularities in function and diseases of the uterus and concomitant affections of the eye.

2. The eye affection may be merely functional, which is the commoner (asthenopia), or there may be organic disease.

3. Asthenopia exists in cases where there is no ametropia, apparently due only to the reflex effects of the uterine disturbance on the organs of vision.

4. In many of these cases there is paresis of accommodation.

5. In other cases of asthenopia in which ametropia is present, and the existence of uterine disease as well, the former is not always relieved by the correcting glasses.

6. Other functional anomalies than asthenopia may be observed, such as blepharospasm, diplopia, and functional irritation of the retina.

7. Long-continued reflex irritation from uterine disease may

result not only in asthenopia, but, as already shown by Mooren, in atrophy of the optic nerve, and other organic changes.

8. Irregularity of circulation and venous hyperæmia about the climacteric period may be the cause of intra-ocular hæmorrhages.

9. Loss of blood from uterine hæmorrhage affects the nutrition of the optic nerve and retina, leading to dangerous results.

10. A variety of pathological conditions of the uterus may be responsible for the eye troubles, but they occur more often where the disease is of a chronic nature, as in displacements, lacerations of the cervix, and other affections accompanied by congestion, and where the nature of the disease is such as to affect the normal process of menstruation.

11. The proper therapeutic measures to be adopted in such cases are:—The rational treatment of the uterine disease; the correction of any existing ametropia; the temporary use of weak convex glasses when there is feebleness of accommodation. In some instances galvanism for the relief of supra-orbital neuralgia, and the use of tonics, proper food, and favourable hygienic conditions.

No branch of sanitary science has received more careful and skilled attention than the hygiene of the eye, and the translation into English and the publication of Hermann Cohn's treatise on "The Hygiene of the Eye in Schools" has given an impetus to this work in these countries.

ON MEANS FOR THE PREVENTION OF MYOPIA.

Dr. Priestley Smith, of Birmingham (*Ophth. Rev.*, 1886), briefly states the causes which contribute to the production of myopia. They are complex, and of several kinds:—

Firstly.—There is the hereditary predisposition. Different observers estimate the importance of this factor very differently, but hardly anyone will deny that under similar circumstances the children of myopic parents are more liable than others to acquire myopia, and that this fact is a weighty one in relation to the general progress of the disorder through successive generations. Whether the transmitted tendency depends chiefly on peculiarities in the tissues of the eyes themselves, or on the mechanical relations subsisting between the eyes on the one hand, and the muscles, the optic nerves, and the orbits on the other, is not yet positively known.

Secondly.—There is the supposed correlation between the growth of the brain and the growth of the eye, by reason of which a high

degree of cerebral development is apt to be associated with an over-development of the eye (see *Opth. Review*, Vol. II., p. 206).

Thirdly.—There are certain exceptional causes, probably connected with abnormal conditions of circulation, nutrition, and tension in the globe, which sometimes produce high degrees of myopia in very young persons, and in those who have never used their eyes much on near objects, or which cause a rapid development of the same during acute febrile diseases.

Fourthly.—There is the excessive use of the eyes on near objects, involving excessive convergence, with consequent traction on the tunics, accommodative strain, and congestion, due to the bent position of the head. To these three factors different investigators attach different degrees of importance, but all are agreed that such close application, especially in early life, and when combined with strong mental effort, is the main cause of the present prevalence of myopia amongst civilised races.

In spite, therefore, of the complexity of the subject, and of some uncertainty as to the pathological processes by which the eye becomes elongated, the indications for preventive measures are clear, and there is a general agreement that our efforts to this end must be directed mainly against over-use of the eyes in near work, especially during the period of childhood and youth. *To prevent myopia we must prevent young people from using their eyes too closely and too long on near objects.*

CÆSAREAN SECTION PERFORMED BY THE PATIENT.

In the *Raccoglitore*, there is given an account of a peasant girl, aged twenty-five years, who to hide her pregnancy, cut open her abdomen and uterus with a table-knife. She tore out the child and cut off its head. She applied a bandage and, after two hours' rest, walked about a mile, rested five hours, and went home. She became unconscious then, the bandages slipped, and a portion of the small intestines escaped by the wound. Thirteen hours after the incision two physicians were summoned, and they replaced the intestines and sewed up the abdominal wound. The woman recovered in about forty days, a small amount of suppuration having taken place along the abdominal incision.—*St. Louis Medical and Surg. Journal.* The first account of Cæsarean section in this country occurs about 128 years ago, and was performed in Dungannon by a midwife.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—Robert M'Donnell, M.D., F.R.S.
General Secretary—W. Thomson, M.D.

OBSTETRICAL SECTION.

President—A. V. Macan, M.B., M.A.O., Dubl.; F.K.Q.C.P.
Sectional Secretary—Andrew J. Horne, F.K.Q.C.P.

Friday, April 1, 1887.

The President in the Chair.

Exhibitions.

Dr. Alfred Smith exhibited an encephalocele. The interesting point was the enormous size of the child, which was 21 inches long, and 11 lbs. weight. This was perhaps because the brain had ceased to require food, and the additional supply went to the other parts of the body. The child had come to its full term.

The President exhibited a multilocular ovarian cyst, which was peculiar in consisting of two very large cysts, and one smaller one, which were all connected by a common isthmus, so that at the operation he first thought it was a case of double ovarian tumour. A large quantity of the cyst fluid escaped into the abdominal cavity, which was therefore washed out with very weak carbolic acid solution. The woman's urine for some days contained a very large quantity of indican, but she made a typical afebrile convalescence.

The President also exhibited a malignant growth, which had been removed from the cervix uteri by Schroeder's operation. The patient was a strong, stout, healthy, florid-looking woman; and the only symptom was menorrhagia, which had lasted for eight months. The old method of removal was by putting an écraseur round the base of the tumour. The modern way was to amputate the cervix of the uterus as high up as

possible, with which object the cervix was first incised up to the fornix vaginæ at both sides, as in an ordinary operation for division of the cervix, and then each lip was amputated as high up as possible by a V-shaped incision, the two edges of which were afterwards brought firmly together by silk sutures. This effectually prevents any hæmorrhage. The woman had a perfectly afebrile convalescence.

The Chairman (Dr. More Madden) said a case came under his observation in the Mater Misericordiæ Hospital last year of a girl, sixteen years of age, who had a malignant tumour of the cervix something like that now exhibited. An operation for the removal of it was performed but was not successful, and she died in the hospital. The operation performed by the President in his case was well deserving of imitation.

The President also exhibited a small monocular fœtus from a case where abortion had occurred about the end of the third month of pregnancy.

The Reparative Treatment of some of the Graver Forms of Vesico-vaginal and Vesico-uterine Fistulæ.

The President having resumed the chair,

Dr. More Madden read a paper on the treatment of certain forms of Vesico-vaginal Fistulæ. [It will be found in the Number of this Journal for May, 1887, Vol. LXXXIII., page 419.]

Dr. Roe said it was the experience of most of them that in all cases that occurred of vesico-vaginal fistula the deliveries had been effected by instruments. But it would be wrong to let it go forth as the opinion of the Section that the instruments were the cause of these fistulæ. He believed that in the majority of cases the fistulæ were the result of sloughing.

Mr. Horne said Dr. Madden, in his paper, had divided fistulæ into two great classes. As regarded the first of these, they were all agreed that where the bands of adhesion were not very great, and the edges of the denuded surfaces could be easily brought together, there could be no hesitation about performing the operation. The great question was whether it should be performed when the loss of tissue at the base of the bladder had been so great that whether the bands were divided or not it was not possible to bring the edges of the wound together.

The President said he felt that the subject of vesico-vaginal fistula was a very big one. Difficult and exceptional cases opened a great many questions that were difficult to answer. When they looked back upon the history of vesico-vaginal fistula, it was extremely interesting to find that a disease which at one time was considered almost incurable, could now, except in the worst cases, be cured with absolute certainty; and they should never cease to hope that some day even the severer cases should be brought within the power of the gynæcologist. There was

one statement in Dr. More Madden's paper, however, which he protested against—namely, that the late Professor Simon, of Heidelberg, thought nothing of closing up the vulva in cases in which he could, with a little trouble, have easily brought the edges of the fistula together, and so cured it by the ordinary operation. No person in modern times, with the exception of Marion Sims, had done so much to show them how this disease ought to be treated as the late Professor Simon. So far from thoughtlessly or needlessly closing the vagina, he had, in several cases in which during his early career he had performed this operation, afterwards, from the results of his increased experience, reopened the vagina and cured the fistula by the ordinary operation; and in a good many cases where the operation of closing the vagina had been already performed by others, he had dilated the urethra and then examined the fistula by passing the finger into the bladder. Finding in this way that the fistula was not beyond his skill, he opened up the vagina again and cured the fistula by the ordinary operation. A man who could do this would hardly be liable to the mistake of closing the vulva without having previously expended all possible care and skill in trying to cure the fistula in the ordinary manner. It was most desirable to draw the attention of young men to the conditions he had laid down as necessary for the cure of these cases. First of all, broad freshened surfaces were required; secondly, all tension should be taken off the edges; lastly, the edges should be brought accurately together by plenty of stitches. Where cases were unsuccessful in his hands, it must have been from such a loss of tissue as made accurate apposition of the freshened surface impossible. When the uterus itself was fixed the upper edge of the fistula could often be mobilised by dissecting a portion of the bladder off from the neck of the uterus. In other cases, where the uterus was still movable, if the slightest shred of the urethra were left, the neck of the uterus could be brought down to it. Dr. Roe had opened an interesting question as to the ætiology of those cases. When he (the President) was first studying them he was under the impression that it was in cases of first childbirth that vesico-vaginal fistula occurred most frequently. But he had not found that most of the cases of the disease that came from the country were cases of first birth; on the contrary, the majority of the women had borne children before; and he thought the occurrence of the disease in them was to be explained by the tediousness of their labours. These considerations pointed to the fact that it was not great pressure but prolonged pressure that caused vesico-vaginal fistula. A quick pressure, no matter how hard, was likely to expel the child without producing it. Again, even supposing that the injury might be caused by the forceps, it would, in all probability, be a tear if not a clean cut. In such a case the loss of tissue would be so slight that cure would be an absolute certainty. Another point that interested him in Dr. Madden's paper was

the reference to cases in which, from the orifice to the neck of the uterus, there was not a shred to represent the base of the bladder. He had himself seen several such cases, but could hardly imagine mere pressure of the child's head ever causing so extensive an injury. Mr. Horne had drawn attention to the circumstances under which stone was likely to form in the bladder. When the bladder was in its normal condition it was emptied from the lowest point, and then its contents could be always cleared out. But in some cases the opening between the bladder and the vagina was high up in the former; and the result was that there was a pocket up to the level of where the fistula was, which was constantly full of unchanged urine. The salts of that urine were then deposited and stones formed.

Dr. More Madden, in reply, said he was glad that the President had vindicated the late Dr. Simon's reputation as regarded this operation, which, however, he (Dr. More Madden) deprecated any idea whatever of attacking in the communication just read. Having expressed his opinions at some length with regard to the treatment of the various forms and complications of vesico-vaginal fistula discussed in the paper, he would not now further trespass on the time of the Academy on that point. But, with regard to the causes of these accidents, he might, however, add a word. A curious circumstance was the diminution in the number of cases of vesico-vaginal fistula and the increasing proportion of cases of vesico-uterine fistula observable of late years; and this fact he was disposed to ascribe to the larger proportion of assisted deliveries and the use of the more powerful axis-traction forceps in recent practice. It was his experience that, in the former instance, the fistulæ were more generally the result of prolonged pressure, while in the latter they, he believed, more commonly arose from the too hasty employment of unduly powerful mechanical force.

The Section then adjourned.

Friday, May 6th, 1887.

The President in the Chair.

Exhibitions.

The President said he had taken the unusual course of bringing a living child, in care of its mother, for exhibition, the child being a remarkable example of the extent to which an infant's cranium might be injured at its birth without its health being seriously affected. It was a second child. The child was delivered by turning. The woman's pelvis was narrow; and it caused a great depression on the child's head, which had become less since its birth, but was still very marked. The child

was slightly asphyxiated after birth, but had been since in perfectly good health, and had given the mother no anxiety. In other cases of narrow pelvis in the hospital the children had been delivered without injury to their crania, but had afterwards died, some of them in an inexplicable manner, within a week.

The PRESIDENT exhibited an ovarian tumour. The woman from whom it was taken was delivered of a child on Christmas Eve, and when she came to the hospital suffering from this tumour her abdomen was as large as if it had been an eight months' pregnancy. The tumour had grown to that size in four months, having developed with great rapidity after the pressure of the child was taken off. This rapid growth was the only thing peculiar about the case. The operation was quite easy and uncomplicated. The day after it her temperature was 102·2°, and on the third day it was normal.

The PRESIDENT exhibited a specimen of hydatidiform, or myxomatous degeneration of the chorion.

The PRESIDENT said he had also to exhibit a rare case of extra-uterine fœtation. The woman had a suspension of the menses for three months, and then was suddenly attacked one day with violent pain in the abdomen, and fell down in a state of collapse. She was put to bed and remained there for five weeks before she was brought to the Rotunda Hospital. When she arrived there she was in great pain. He found a tumour extending up to the umbilicus. She gave a positive history of pregnancy; and on squeezing her breast considerable fluid came out. After she had been for some time in the hospital he thought the posterior *cul-de-sac* more indicative of fluid than it had been, and determined to aspirate. He did so; and the first syringeful of blood that came away was quite black, but the next was so bright that he withdrew the needle at once. Symptoms of increasing collapse ensued, and after nine days she died. Dr. M'Kee made the *post mortem*. On cutting through the uterus a large blood-clot was found in the posterior *cul de sac*. The fœtus was found in the abdomen. There was also a fibrous tumour. The sac in which the fœtus must have been was recognisable, but the condition of the clot and tumour was such that the place in which the fœtus had developed could not be determined.

DR. R. H. FLEMING exhibited the decidua removed from the cervix of a patient shortly before death, who was suffering from profuse internal hæmorrhage, the result of a ruptured extra-uterine pregnancy, probably tubal.

DR. ALFRED SMITH exhibited specimens of urine reactions. The urine had been taken from a woman who had suffered from puerperal convulsions. Four days before the attack she had great pain in the abdomen with frontal headache, and the convulsions were started with epigastric pain and great depression about the chest, and small and rapid pulse.

The reactions were divided into four groups representing urine drawn off at different times—viz., the first at 6 p.m. on the 30th April, shortly after the woman was admitted into the Rotunda Hospital; the second at 2 p.m. on May the 1st; the third at 10 30 p.m. on the same day; and the fourth at 6 30 p.m. on May the 6th.

Specimen (*a*) of the first group showed a half bulk of albumen; (*b*) a heavy peptone reaction; and (*c*) well-marked acetone. Specimen (*a*) of the second group showed albumen one-half by bulk; (*b*) heavy peptone reaction; and (*c*) acetone. Specimen (*a*) of the third group showed one-eighth of albumen by bulk; in specimen (*b*) peptone was absent; and in specimen (*c*) acetone was absent. In group four specimen (*a*) showed a tenth of albumen by bulk; in specimen (*b*) peptone was absent; and in specimen (*c*) acetone was absent.

The testing of the urine took place after the convulsions. The quantity of it was perfectly normal before she came in.

Abscess of the Uterus, opening through the Umbilicus.

Dr. J. R. Kirkpatrick said—In this case an abdominal tumour appeared three weeks after delivery, in shape and size corresponding to the uterus at the seventh month of pregnancy. Tumour reached from pubes to an inch above umbilicus, became adherent to abdominal walls, and after four weeks an abscess discharged through the umbilicus. The matter discharged was thick and putty-like, in large quantities, and very fœtid for some days. There was not much pain, but very rapid pulse, and varying temperature, running up at night to 103° and 104°.

A drainage tube was passed in at umbilicus, and for several days the abscess cavity was irrigated with a solution of boric acid, in hot water (1 to 40). The feverish symptoms subsided after some days, discharge ceased, the tumour diminished in size, and patient made a good and perfect recovery.

A similar case is described by the late Professor Schroeder, in Vol. X. of "von Ziemssen's Cyclopædia of the Practice of Medicine," at page 99.

Professor Bennett said, that as it fell to him to have a large part in the active treatment of this case, he desired to make a few observations upon it. The pelvis was flat at the sides, back, and vagina, and was quite free. The only feature that pointed to the uterine character of the affection was the upward elongation of the uterus. The opening was near the summit of the tumour and was extremely small; and, in the absence of precedent the question was whether, as the symptoms were urgent, it would be wiser to dilate the opening with a knife, or to adopt the slower method of gradual dilatation, as he was apprehensive that there might be adhesions along the point of exit. A remarkable symptom was that whenever the tumour was compressed, the woman felt a desire to urinate. The path of the opening was along the urachus, and, as he

felt a delicacy about using the knife there he adopted the slower course of dilatation. Spots of pyæmia appeared, and he was inclined to lay the tumour open, but did not do so for fear of infecting the abdominal cavity. The abscess originated subsequent to labour, and had a duration of between three and four months; and a remarkable feature about it, which he never saw in any other abscess, was that the contents were reduced to such a condition of solidity that a great force of irrigation had to be employed in order to dislodge them. The whole tumour was full of material which was firmer a great deal than butter. Such rapid degeneration of pus he had never seen in so short a period as between three and four months. The material consisted of nothing but a mixture of detritus of pus and oil. The question of its site was a difficult one to decide. It was not in the uterine cavity because there never was any discharge whatever of pus from it; and he believed that it must have been situated in the sub-peritoneal tissue of the upper part of the body of the uterus. It was the only example of the kind he had ever seen. At one period of the case he thought that there was a suppurating ovarian cyst which had become adherent; and he also thought that it might be a case of extra-uterine fœtation, and that they would come on the debris of the fœtus. Whether he was right or wrong in the course he took of slow dilatation, the result of the case had been successful. The rapid restoration to health of the woman, the moment the contents of the abscess were entirely cleared away, showed that the case was neither one of an ovarian tumour which had suppurated nor one of extra-uterine fœtation in which the fœtus had decomposed. The only difficulty was the removal of the putty-like material which the abscess contained. As he had said he feared to make a free opening in the abdomen, not knowing the limitations of the canal through which the pointing took place, and, as irrigation was adopted, it was necessary to employ a free stream, and the only question was what antiseptic should be used. They could not use three or four pints of mercuric, iodoform, or carbolic solution; the only antiseptic that could be employed in the necessary quantity was boric acid, and that solution proved most efficient.

Mr. Doyle did not think there was evidence from which to infer the period of existence of the abscess. It might have been there for a considerable time previous to labour without having been recognised.

The President said this case involved a number of important questions, on all of which opinions might differ. As to the origin of the abscess, it was obviously puerperal. Although the nurse did not recognise it, he believed that there must have been puerperal trouble after confinement, and that she then had peritonitis, which burst through the umbilicus. Abscesses of the uterus were excessively rare; but cystic peritonitis was not so rare. If there had been no fever how could an abscess of the uterus have occurred? He was very doubtful that this was an abscess,

and could not receive Professor Bennett's explanation of an abscess forming under the peritoneal covering of the uterus, which was very firm; but there were plenty of chances of peritonitis occurring round it. He considered that this accumulation was the result of encysted peritonitis—why? Because the uterus went into its proper place afterwards. If it had been drawn by a big abscess how could it have gone down afterwards? To tell him that there was an abscess, and that the uterus became movable a fortnight after its contents were turned out, was not logical. Such accumulations of pus in the intestines were tolerably common. Next, as to the treatment Dr. Kirkpatrick adopted—it was quite right; but where there were symptoms of pyæmia, with a pulse of 130 and a temperature of 104°, he (President) would not have hesitated to open her whole abdomen, rather than leave her in such a condition. He understood from Dr. Kirkpatrick that the abscess was over the level of the umbilicus. If so, he did not see how the opening could have taken place along the urachus. As to the irrigating fluid in such a case, of course if a disinfectant were necessary it could be used; but, so far as the mere mechanical force of the fluid was concerned, Vartry water was as good as anything else. In the Rotunda, whenever corrosive sublimate was used, care was always taken to apply plain water immediately afterwards, so that any of the corrosive sublimate that remained was diluted. He believed that in this case what occurred was encysted peritonitis after puerperal trouble, the substance removed being just the kind of cheesy matter that was found after peritonitis.

Dr. Kirkpatrick, in reply, said—As to its having been encysted peritonitis, the fact was that there were no symptoms of peritonitis; the tumour also was perfectly distinct and the exact shape of the uterus was preserved. Neither was there any pelvic cellulitis. The uterus had increased in size within a few days, and the patient had got up and moved about; but she was not in good health. She was in much the same state for some weeks, both before and after her confinement; but there were no symptoms of either peritonitis or puerperal mischief. As to the washing out of the uterus, the difficulty was to empty the sac.

The Section then adjourned.

PATHOLOGICAL SECTION.

President—Walter G. Smith, M.D.
Sectional Secretary—J. B. Story, M.D.

Friday, April 15, 1887.

The President in the Chair.

Report of Reference Committee on the Lower Limb of a Fœtus.

Dr. E. H. Bennett submitted the Report of the Reference Committee on the lower limb of a fœtus, exhibited by Dr. Macan, which had been laid before them. The dissection of the leg and foot had been conducted by Mr. Scott and Mr. Heuston; that of the joints by Dr. Bennett. The justice of Dr. Macan's observations as to the desirability of having a competent pathologist attached to the Rotunda Hospital was manifest from what happened in the case of this specimen; for—to correct a word in the report of Mr. Scott—this specimen was not "slightly" damaged, but so horribly damaged before it came into the hands of the Committee that the efficacy of their examination of it was much impaired. The fœtus was one with a spina bifida, an imperforate anus, and a club-foot. Dr. Macan had already submitted the facts relating to the spina bifida and the visceral deformities to the Society, and only the deformed limb had been referred to the Committee. On examination of the specimen by the Committee the following facts were observed:—On the posterior side of the leg the muscles of the calf were normal. There was no evidence of the existence of the tibialis posticus. There was a more intimate attachment than usual between the flexor pollicis and flexor digitorum in the sole of the foot, the flexor pollicis sending a strong tendon to join the flexor digitorum inferior to the ordinary band of junction between those muscles. The sciatic nerve appeared normal, but there was no evidence of its division into peroneal and popliteal nerves, the continued trunk giving branches to muscles of the calf, and then passing superficially over the gastrocnemius towards the fibular border, which it reaches in middle of leg, where it was found to divide into two branches, supplying the peronei, longus and brevis, which are normally developed. All the anterior muscles are in a rudimentary condition, the only evidence being a small tendon, evidently the tendon of extensor longus digitorum. There was no evidence of the existence of tibialus anticus or extensor longus pollicis muscles. The lesion would appear to be a non-development of certain nerves, with subsequently arrested development of the muscles supplied by them. At the time the specimen was exhibited he (Dr. Bennett) asked for the reference, because it occurred to him, on seeing it, that with the malformation of the foot congenital

dislocation of the hip was associated. In order to establish the existence of congenital dislocation of the hip in a subject so young, so ill-developed as this fœtus, the opposite hip-joint was required for the purpose of comparison; but only a portion of the head of the femur and the capsule on the opposite side was spared by the dissector of the visceral deformities. There was, however, present sufficient to prove that congenital dislocation existed on the deformed side. In the ordinary cases of that dislocation the gluteal muscles were very small; but in this fœtus there was no gluteal muscle whatever on the club-foot side. The quadriceps extensor muscles were developed; but the group of outward rotators were all absent except the obturator. The head of the femur occupied a position above and behind that of the opposite one and near the brim of the acetabulum. All the ligaments of the hip-joint were present; the head of the femur was smaller than that of the opposite side, and already had begun to assume the shape seen in the recorded cases observed in the adult; its epiphysis was otherwise normal; the defect of the muscles of the gluteal region, as in the leg, was consequent on the failure of the nerve supply, the nerve cords being damaged in their passage through the tumour, deforming the spine. This specimen would, therefore, support the view that the congenital deformity was induced by nerve lesion.

Dr. Knott asked were there any facts from which the age of the fœtus could be determined; and also whether the normal muscular *contour* of the limb was occupied by fat.

Dr. Bennett, in reply, said he was unable to determine the age of the fœtus; nor from the condition of the specimen had he anything to enable him to answer the other question either.

Fibroma Corneæ and Melanotic Tumour of the Conjunctiva.

Mr. Arthur H. Benson showed sections of a fibroma of the cornea. The tumour had recurred after excision three months previously. The growth was similar to the former, consisting of corneal tissue slightly modified. It was opaque, elevated above the surface, and non-vascular. The cornea underneath was transparent. He also showed sections of a pigmented tumour of the conjunctiva removed from a boy, aged eleven years. It had been under his observation for five years, during which time it had enlarged slowly. The deeper structures of the eye were not implicated. Histologically, the growth consisted of much fibrous tissue, with masses of sarcomatous-looking growth, and a quantity of pigment, much of which lay immediately under the epithelium.

The President—Is this the first case of fibroma corneæ that you have met with?

Mr. Benson—It is the first. There is no other case on record that I can find.

Fatty Substitution of the Erector Spinæ in the Pig.

Mr. J. Alfred Scott communicated a case of fatty substitution of the erector spinæ in the pig.

Dr. Bennett said the fatty replacement in this case was like that visible in the fœtus which had just been shown to the Section. The name "replacement" was appropriate as distinguishing what had taken place from fatty degeneration. Dr. Thomas E. Little had been familiar for the last fifteen years with a similar pathological change, and had called it by the same name that Mr. Scott had adopted—namely, "replacement." Fifteen years ago he (Dr. Bennett) exhibited, in the then Pathological Society, an example of this condition, which had been produced, not by defective nerve organisation, but by the persistent maintenance of a limb in splints for a length of time. Entire disuse of the muscle had produced the result as efficiently and rapidly as if there were no nerves. Dr. Little had also described an example of this kind of fatty replacement caused by a fracture which had rendered the part of the limb where the fracture took place powerless.

Perforation of the Stomach.

Mr. Boyd communicated a case of perforation of the stomach.

Dr. William Smyly communicated another case of perforating ulcer of the stomach. The patient was a girl who, two years ago, was under his care for dysmenorrhœa in Baggot-street Hospital. On the 9th of last month she came to Dublin for the purpose of being treated in the hospital for the same affection; and she walked from Kingsbridge Station, carrying a heavy carpet-bag, to his house. She was a strong, fat, healthy-looking girl, with well-developed muscles. He gave her an order for admission into the hospital. Next morning he did not see her, it not being his day of attendance at the hospital; but in the afternoon he received a message from the House Surgeon that she had been attacked with violent pain in the abdomen. When he saw her she was writhing in agony, in bed, her pulse being 100, and her temperature normal. On examining her he found the mark of a blister on the epigastrium; and she told him she had been in the Adelaide Hospital for a gastric ulcer. The idea that her stomach had been perforated by an ulcer then occurred to him. When he saw her in the evening she was very bad with symptoms of peritonitis, and her pulse exceedingly rapid. She died in a few hours afterwards. The interval from the first attack of pain until her death was about nine or ten hours. On opening the abdomen he found the space in front of the great omentum full of the contents of the stomach, which had been extravasated through the perforation caused by the ulcer, which, as in Dr. Boyd's case, was situated in the anterior surface of the stomach near the lesser curvature. There was no peritonitis—there had not been time for it.

Dr. Wallace Beatty adduced another case of perforating stomachic ulcer. The patient was a man about thirty years of age. On the 10th of last October, whilst walking through town, he was suddenly seized with agonising pain in the right hypochondriac region, and had to go home in a cab. He (Dr. Beatty) was sent for to see him, and found him suffering intense pain through the abdomen, but especially in the right hypochondriac region, which was very greatly distended with gas; and he was vomiting and very weak. He put him under opium, and next day had him brought to the Adelaide Hospital. For two or three days he remained in the same state, vomiting, with distended abdomen, and unable to pass wind. Then his belly got soft, he passed wind and also an unusual fæcal accumulation, and he became well. In a week after his admission he was able to be up, had a good appetite, and was himself again. He (Dr. Beatty) was then under the impression that his case was one of intestinal obstruction. From October he had fairly good health, although troubled a good deal with flatulence. On last Easter Monday he came to him complaining of a more than usual amount of flatulence, and by his permission took nux vomica, which he had found to relieve him. He went to the Park in the course of the day and enjoyed himself. In the evening he was seized with severe pain in the right hypochondriac region—exactly the same place where he had it before; his belly became swollen, and he got sick and vomited all night. He came on Tuesday morning to the hospital, and was then pulseless. His abdomen was greatly distended and very tender, especially over the right hypochondriac region; and soon after he came in he vomited. The vomited matter contained blood. After about six or eight hours he died. A *post mortem*, made by Dr. Bewley, disclosed general peritonitis; but there was no obstruction of the intestine. On examining the duodenum a perforating ulcer was found. The pylorus was very small and narrowed by thickening; and on opening it they found three ulcers surrounding the upper part of the duodenum and perforating it.

Dr. Bewley remarked that there were no appearances of epithelioma. He thought the ulcers of a simple and non-malignant nature.

The President said these specimens all illustrated the uncertainty of clinical diagnosis in such cases. No combination of typical symptoms seemed sufficient to enable them to recognise, or exclude, with certainty the existence of one of those mysterious ulcers. As to the pathology of them, all the theories that had been formed to account for them were still defective. They failed to explain the limitation of the ulcers to particular portions of the intestinal canal. If they were due to thrombi, why did they not occur in other parts of the canal? As to the action of the gastric juice being a factor in their production, he did not know that there was any substantial evidence in favour of it. So far as he knew, small perforating ulcers of the stomach were found only in the upper

portion of the duodenum and not lower down. Yet in anæmic persons why should not thrombi occur in other portions of the intestinal canal? Mr. Boyd's theory certainly invited criticism; but he (the President) did not—in the present condition of the specimen at all events—see any vestige of varicose veins.

Mr. Boyd said that when he made the *post mortem* the first thing that struck him was the large number of veins of that description in the neighbourhood of the perforation.

Dr. Bennett said if they could only recognise these ulcers with certainty he believed that many of them could be cured by surgical interference. Even after the rupture had taken place, and the contents of the stomach had been extravasated into the abdomen, there would be no difficulty in surgical interference, provided the diagnosis had been certainly made. With their knowledge of the present day, and experience of the impunity with which the abdominal cavity could be opened, why should it not be done in these cases? Provided there were no adhesions, and that they were sure that the ulcer was in the front of the stomach, he did not see why sutures could not be employed. He must endorse the remark of the President as to the alleged varicosity in Mr. Boyd's specimen. He did not think the convolutions or lines were varicosities at all, but only the normal rugæ of the stomach.

Mr. Boyd, in reply, said that when the specimen was recent, the varicose vessels were distinctly perceptible near the edge of the ulcer. The specimen was shrivelled up now in consequence of having been so long in carbolic solution. In cases of fatal perforation the gastric ulcer was generally on the anterior aspect of the stomach; and there were anatomical reasons why perforations should occur more frequently there than in any other place. At the anterior aspect of the stomach, where there was no support from neighbouring organs and the diaphragm was continually contracting, and the abdominal muscles in continual motion, greater facilities were afforded for a fatal rupture than elsewhere. The President did not seem to think that emboli or thrombi played any very important part in the formation of gastric ulcers. But in his paper he (Mr. Boyd) had alluded to the theory of Virchow on that point. He had performed the operation of tying gastric arteries; and he had found that when a part was cut off from its supply of blood, necrosis took place when the gastric acid came into contact with it. The circulation of the blood in the vessels through the walls of the stomach had been put forward as the explanation of the non-interference of the gastric juice with the gastric walls under ordinary circumstances.

Dr. Beatty, in reply, said in his case the stomach was large but not immensely dilated, although full of blood.

The Section then adjourned.

MEDICAL SECTION.

President—James Little, M.D.; President of the King and Queen's College of Physicians.

Sectional Secretary—A. N. Montgomery, M.K.Q.C.P.

Friday, April 29, 1887.

The President in the Chair.

Chronic Interstitial Nephritis.

Mr. C. H. Robinson read a paper on a case of chronic interstitial nephritis.

Ideal Paralysis; Neurosis of the Viscera.

Mr. W. Bernard, F.K.Q.C.P., of Londonderry, read a paper on ideal paralysis; and also one on a case of neurosis of the viscera, ending in dilatation of the stomach. He also exhibited macroscopic and microscopic specimens of the latter case.

Mr. Conolly Norman said the first case detailed in Mr. Bernard's paper exemplified the extreme difficulty attending the diagnosis of apparent physical affections in the insane. It also recalled to his mind the record of a case carefully described by a distinguished countryman, Dr. Edward Geoghegan, Assistant Medical Officer at Portsmouth Lunatic Asylum. The patient had remained for eighteen months absolutely in one position, and during that time he never spoke. When placed on his feet he stood with his head slightly to one side and his hands on his thighs; and when he lay down he maintained the same posture without making the slightest movement. At the end of eighteen months he made a slight voluntary movement, and the attendants taking him, as it were, "on the hop," ran him along the room; and from that time his motor condition gradually improved, although at the outset he was stiff and unable to make movement from disease of his muscles. When he began to move he seldom spoke, and then in a sulky, unsatisfactory manner. Since the publication of Dr. Geoghegan's report, the patient so far recovered that he had been discharged and readmitted as a paid servant in the kitchen; but the present Assistant Medical Officer, who published a supplemental notice of the case, could not extract from the man the slightest account as to how or why he maintained the fixed position so long. The case did not differ materially from Mr. Bernard's. Instances of absolute silence for years had also some affinity. He remembered a case recorded in one of the German journals, eight years ago, of a man who had been found wandering in a village and was committed to a lunatic asylum, where he remained for years and never

spoke, being silent probably through a delusion; so that his identity was not discovered.

Dr. Fitzpatrick mentioned the case of a girl, aged twenty, admitted into St. Vincent's Asylum, suffering from hysterical mania, and she exhibited delusions assuming a variety of diseases. At one time she fancied her arm was paralysed, and after long persuasion that it was not so she got the use of the arm again. At another time she remained without speaking for months. During these delusions she took her food and gave no trouble to the attendants. At length, in January last, after twenty years of intermittent delusions, she got an attack of epilepsy, followed by paralysis of the right side, and she never spoke from that time to her death. Two months ago she was attacked again with epilepsy, followed by paralysis on the left side. She was then in a state of general paralysis. He never had a second opinion but that there was structural disease in the brain, and his prognosis was verified after twenty years. Dr. Bernard's case would, in all human probability, develop in an attack of disease.

Mr. Cox said that he had had himself, in the country, a case of ideal paralysis. A strong healthy man took to his bed, suddenly paralysed, but on examination he came to the conclusion that it was only a case of ideal paralysis; he considered that the man would become paralysed if he remained in bed. His opinion, however, was not accepted. Some time afterwards this man was driving, and the wheel coming off his trap, he was forced to get out, and he walked home. He had had recently under treatment a dyspeptic of twenty years' standng, who suffered from pain in the pyloric region, for which he had been under the care of Jenner and other eminent men. The patient got rid of a great quantity of fluid from the stomach of an acrid nature. On one occasion, having brought the appliances to wash out the stomach, the patient objected. On his recommendation, his colleague, Mr. M'Ardle, performed section of the pylorus under antiseptic precautions, but the patient died from want of sufficient vitality.

Mr. Moloney asked was there any history of hereditary insanity or of intemperance in Mr. Bernard's case?

The President doubted whether surgical interference would be useful where the stomach was so enormously dilated, as in the present case, because, even if a fresh pylorus were constructed by the skill of the surgeon, so long as the stomach remained dilated, it would form a receptacle for decomposing matters, alimentary and secreted.

Mr. Bernard replied.—In the first case the patient had a motive for lying in bed—namely, to get his friends to pay more attention to him; and his pretending to be paralysed went on so long that really he could not walk. The case had nothing in common with that mentioned by Dr. Fitzpatrick. There was no hereditary tendency to insanity whatever.

He regretted not having washed out the stomach twice instead of once in the twenty-four hours. Power was never lost over the rectum and bladder.

Calculous Pyelitis, followed by Albuminoid Disease.

Dr. J. W. Moore presented the case of a porter, aged seventeen, who was admitted into the Meath Hospital, under his care, on Thursday, March 24, 1887. [It will be found in the Number of this Journal for June, Vol. LXXXIII., page 531.]

The President said the case illustrated the difficulty attending the diagnosis of renal mischief. The quantity of urine passed was an important element in disease of the kidney. The morbid specimen had not the very pale colour and consistency by which the genuine albuminoid liver was distinguished.

Dr. J. W. Moore briefly replied.

The Section adjourned.

THE CHEMICAL PATHOLOGY OF LEAD-POISONING.

It is known that many metallic poisons have a peculiar affinity for, and tendency to, deposition in nervous tissue. An important paper by Mr. A. Wynter Blyth, read at a meeting of the Chemical Society on the 5th May, shows in a marked manner how lead acts in this manner. At a certain lead factory in the east of London five cases of more or less sudden death at different dates have been attributed to the effects of lead. In two of the cases the author had an opportunity of making a toxicological investigation. In the one case 24·25 mgrms. of lead sulphate were separated from the liver and 5·4 mgrms. from one kidney; there was also lead in the brain. In the second case investigated, occurring about a year after the first, the brain was more exhaustively examined, the cerebrum and cerebellum being treated separately and divided up by suitable means into white matter, kephalin, ether extract, substances soluble in cold alcohol and albuminoid residue, and the lead determined in each. Calculated on the whole cerebrum, the analysis gave a result equal to 99·7 mgrms., or a possible total for the whole brain of 117·1 mgrms. of sulphate of lead. There has hitherto been no reasonable hypothesis to explain the profound nervous effects of the assimilation of minute quantities of lead; but if it is allowed that lead forms definite compounds with essential portions of the nervous system, it may then be assumed that in effect it withdraws such portions from the body; in other words, the symptoms are produced, not by poisoning in the ordinary sense of the term, but rather by destruction—a destruction it may be of important nerve centres.—*Pharm. Jour.*, May 14.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, June 18, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	May 28.	June 4.	June 11.	June 18.		May 28.	June 4.	June 11.	June 18.
Armagh -	15·5	25·8	25·8	20·7	Limerick -	36·7	24·3	33·7	17·5
Belfast -	27·0	22·8	21·8	23·7	Lisburn -	19·3	19·3	33·8	19·3
Cork -	20·8	20·8	16·9	22·1	Londonderry	25·0	16·0	21·4	21·4
Drogheda	12 7	29·6	38·1	25·4	Lurgan -	10·3	35·9	15·4	5·1
Dublin -	23·2	21·3	30·0	26·6	Newry -	17·6	17·6	21·1	21·1
Dundalk -	13·1	13·1	30·6	21·8	Sligo -	19·2	14·4	0·0	24·1
Galway -	20·2	26·9	20·2	20·2	Waterford -	23·2	34·7	16·2	18·5
Kilkenny	21·1	16·9	21·1	33·8	Wexford -	25·7	21·4	12·8	8·6

In the week ending Saturday, May 28, the mortality in twenty-eight large English towns, including London (in which the rate was 19·0), was equal to an average annual death-rate of 20·4 per 1,000 persons living. In Glasgow the rate was 23·0; and in Edinburgh it was 20·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 23·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·8 per 1,000, the rates varying from 0·0 in Limerick, Kilkenny, Drogheda, Wexford, Sligo, Lisburn, Lurgan, and Armagh, to 10·1 in Galway—the 6 deaths from all causes registered in the last-named district comprising 2 from typhus and 1 from whooping-cough. Among the 116 deaths from all causes registered in Belfast are 7 from whooping-cough, 1 from simple continued fever, 1 from enteric

fever, and 2 from diarrhœa; and the 3 deaths in Dundalk comprise 1 from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 248—127 boys and 121 girls—and the deaths to 163—79 males and 84 females.

The deaths represent an annual rate of mortality of 24·1 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 23·2 per 1,000.

Thirty-one deaths from zymotic diseases were registered, being 6 over the number for the preceding week, and also 6 in excess of the average for the twenty-first week of the last ten years: they comprise 17 from measles, 1 from typhus, 3 from whooping-cough, 2 from diphtheria, 1 from ill-defined fever, 1 from enteric fever, 1 from diarrhœa, 1 from dysentery, &c.

Twenty-one cases of measles were admitted to hospital, being 23 under the admissions for the preceding week; 18 measles patients were discharged during the week; 1 died; and 59 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

Three cases of scarlatina were admitted to hospital, being 5 under the admissions for the preceding week; 10 patients were discharged, and 37 remained under treatment on Saturday, being 7 under the number in hospital on Saturday, May 21.

Two cases of typhus and 5 of enteric fever were admitted to hospital; 8 cases of the former and 23 of the latter disease remained under treatment on Saturday, against 9 and 19 respectively at the close of the preceding week.

Twenty-two deaths from diseases of the respiratory system were registered, being 16 under the number for the preceding week, and also 16 below the average for the 21st week of the last ten years; they comprise 11 from bronchitis and 4 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 4, the mortality in twenty-eight large English towns, including London (in which the rate was 17·1), was equal to an average annual death-rate of 19·5 per 1,000 persons living. In Glasgow the rate was 20·3; and in Edinburgh it was 19·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·2 per 1,000, the rates varying from 0·0 in 10 of the districts to 6·9 in Waterford—the 15 deaths from all causes registered in that district comprising 3 from whooping-cough. Among

the 98 deaths from all causes registered in Belfast are 1 from scarlatina, 1 from typhus, 3 from whooping-cough, 2 from enteric fever, and 1 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 163—75 boys and 88 girls—and the deaths to 145—81 males and 64 females.

The deaths represent an annual rate of mortality of 21·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 21·3 per 1,000.

Twenty-four deaths from zymotic diseases were registered, being 7 under the number of the preceding week, and 5 below the average for the twenty-second week of the last ten years; they comprise 10 from measles, 4 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from ill-defined fever, 2 from enteric fever, 1 from diarrhœa, 1 from erysipelas, &c.

Thirty-six cases of measles were admitted to hospital during the week, being 15 in excess of the admissions for the preceding week, but 8 under the number for the week ended May 21; 11 measles patients were discharged, 1 died, and 83 remained under treatment on Saturday, being 24 over the number in hospital on Saturday, May 28.

Ten cases of scarlatina were admitted to hospital, being 7 over the admissions for the preceding week; 13 patients were discharged, 1 died, and 33 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

Two cases of typhus and 7 of enteric fever were admitted to hospital; 4 cases of the former and 23 of the latter disease remained under treatment on Saturday, against 8 and 23, respectively, at the close of the preceding week, 6 typhus and 7 enteric fever patients having been discharged in the course of this week.

Twenty deaths from diseases of the respiratory system were registered, being 17 below the average for the corresponding week of the last ten years, and 2 under the number for the week ended May 28; they comprise 11 from bronchitis, 5 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, June 11, the mortality in twenty-eight large English towns, including London (in which the rate was 17·5), was equal to an average annual death-rate of 18·9 per 1,000 persons living. In Glasgow the rate was 22·5; and in Edinburgh it was 20·9.

The annual average death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 25·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts

were equal to an annual rate of 2·7 per 1,000, the rates varying from 0·0 in 10 of the districts to 4·6 in Waterford—the 7 deaths from all causes registered in that district comprising 2 more from whooping-cough. Among the 94 deaths from all causes registered in Belfast are 1 from scarlatina, 5 from typhus, 2 from whooping-cough, 1 from simple continued fever, and 2 from enteric fever. Of the 25 deaths in Limerick 1 was caused by diphtheria, and the 9 deaths in Drogheda comprise 1 from scarlatina.

In the Dublin Registration District the births registered during the week amounted to 202—101 boys and 101 girls; and the deaths to 211—106 males and 105 females.

The deaths represent an annual rate of mortality of 31·2 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 30·0 per 1·000.

Thirty-one deaths from zymotic diseases were registered, being 7 over the number for the preceding week, but 2 below the average for the twenty-third week of the last ten years: they comprise 18 from measles, 3 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from diphtheria, 1 from ill-defined fever, 2 from enteric fever, 2 from diarrhœa, &c.

Forty-seven cases of measles were admitted to hospital, being 11 over the admissions for the preceding week—28 measles patients were discharged, and 102 remained under treatment on Saturday, being 19 over the number in hospital on Saturday, June 4.

Eleven cases of scarlatina were admitted to hospital against 10 admissions in the preceding week; 10 patients were discharged, and 34 remained under treatment on Saturday, June 4.

Only 1 case of typhus and 1 of enteric fever were admitted against 2 and 7 respectively, in the preceding week—4 cases of the former and 14 of the latter disease remained under treatment in hospital on Saturday.

Thirty-seven deaths from diseases of the respiratory system were registered, being equal to the average for the corresponding week of the last ten years, and 17 over the number for the week ended June 4: they comprise 19 from bronchitis, 5 from croup, and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, June 18, the mortality in twenty-eight large English towns, including London (in which the rate was 17·2), was equal to an average annual death-rate of 18·4 per 1,000 persons living. In Glasgow the rate was 21·5; and in Edinburgh it was 18·3.

The average annual death-rate in the sixteen principal town districts of Ireland was 23·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·3 per 1,000, the rates varying from

0·0 in Londonderry, Kilkenny, Wexford, Dundalk, Lurgan, and Armagh, to 8·5 in Drogheda—the 6 deaths from all causes registered in the last-named district comprising 1 from whooping-cough and 1 from enteric fever. Among the 102 deaths from all causes registered in Belfast are 1 from scarlatina, 4 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 4 from diarrhœa; the 8 deaths in Waterford comprise 1 from measles and 1 from diarrhœa. The 6 deaths in Galway comprise 2 from typhus. One of the 5 deaths in Sligo was caused by simple continued fever, and 1 of the 4 in Lisburn resulted from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 181—107 boys and 74 girls—and the deaths to 181—79 males and 102 females.

The deaths represent an annual rate of mortality of 26·7 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 26·6 per 1,000.

Thirty-eight deaths from zymotic diseases were registered, being 7 over the number for the preceding week, and 13 over the average for the twenty-fourth week of the last ten years; they comprise 18 from measles, 6 from scarlet fever (scarlatina), 3 from whooping-cough, 5 from enteric fever, 1 from erysipelas, &c.

Fifty-nine cases of measles were admitted to hospital, being 12 over the admissions for the preceding week; 32 measles patients were discharged, 2 died, and 127 remained under treatment on Saturday, being 25 over the number in hospital at the close of the preceding week.

Eleven cases of scarlatina were admitted to hospital, being equal to the admissions for the preceding week; 4 patients were discharged, 1 died, and 40 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, June 11.

Three cases of typhus and 3 of enteric fever were admitted, against 1 case of each disease admitted during the preceding week; 7 cases of typhus and 10 of enteric fever remained under treatment in hospital on Saturday.

Twenty-eight deaths from diseases of the respiratory system were registered, being 9 under the number for the preceding week, and 5 below the average for the 24th week of the last ten years; they comprise 11 from bronchitis, 8 from pneumonia or inflammation of the lungs, and 3 from croup.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of June, 1887.

Mean Height of Barometer,	30·213 inches.
Maximal Height of Barometer (on 29th, at 9 a.m. and 9 p.m.),	30·500 „
Minimal Height of Barometer (on 7th, at 9 a.m.),	29·789 „
Mean Dry-bulb Temperature,	62·3°.
Mean Wet-bulb Temperature,	57·3°.
Mean Dew-point Temperature,	53·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·404 inch.
Mean Humidity,	72·3 per cent.
Highest Temperature in Shade (on 17th),	78·4°.
Lowest Temperature in Shade (on 10th),	47·4°.
Lowest Temperature on Grass (Radiation) (on 10th),	40·2°.
Mean Amount of Cloud,	41·7 per cent.
Rainfall (on 5 days),	·252 inch.
Greatest Daily Rainfall (on 3rd),	·093 inch.
General Directions of Wind,	N.E., E.

Remarks.

June, 1887, will be long remembered as one of the driest and warmest months on record in Dublin. The barometer was high almost throughout the month and remarkably steady. As in May, there was a marked preponderance of polar (N.E. and E.) winds, which were, however, of little strength, and partook more of the nature of day sea-breezes than of real or very decided air-currents. There were no electrical disturbances in Dublin, and after the 7th not a drop of rain fell.

In Dublin the mean temperature (62·3°) was much above the average (57·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were also 62·3°. In the twenty-two years ending with 1886, June was coldest in 1882 (M. T. = 55·8°), and in 1879 (the cold year) (M. T. = 55·9°). It was warmest in 1865 (M. T. = 61·0°), and in 1868 (the "warm year") (M. T. = 60·5°). In 1886, the M.T. was 57·5°.

The mean height of the barometer was 30·213 inches, or as much as 0·289 inch above the average value for June—namely, 29·924 inches. The mercury marked 30·500 inches at 9 a.m. and 9 p.m. of the 29th, and fell to 29·789 inches at 9 a.m. of the 7th. The observed range of atmospherical pressure was, therefore, only ·711 inch—that is, a little less than three quarters of an inch. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 62·3°, or 10·6° above the value for May, 1887; that calculated by Kaemtz's formula—viz., *min.* + (*max.* − *min.* × ·41) = *Mean Temp.*—

from the means of the daily maxima and minima was 60·9°, or 4·3° above the average mean temperature for June, calculated in the same way, in the twenty years, 1865–84, inclusive (56·6°). The arithmetical mean of the maximal and minimal readings was 62·3°, compared with a twenty years' average of 57·7°. On the 17th the thermometer in the screen rose to 78·4°—wind E.N.E.; on the 10th the temperature fell to 47·4°—wind N. The minimum on the grass was 40·2° on the latter date. The rainfall was only ·252 of an inch, distributed over but 5 days. The average rainfall for June in the twenty years, 1865–84, inclusive, was 1·962 inches, and the average number of rainy days was 14·7. The rainfall and the rainy days, therefore, were decidedly below the average. In 1878 the rainfall in June was very large—5·058 inches on 19 days; in 1879 also 4·046 inches fell on 24 days. On the other hand, in 1874, only ·405 of an inch was measured on 9 days, and in 1868 only ·677 of an inch fell on but 6 days.

A lunar corona was seen on the 27th, and there was a solar halo on the 5th. The atmosphere was foggy on the 4th and 18th. High winds were noted on 3 days, but did not attain the force of a gale on any occasion. Temperature reached or exceeded 70° in the screen on no fewer than 17 days.

During the first few days the weather was dull and showery in Ireland and Scotland, but very unsettled over England, France, and the Netherlands. On the morning of the 2nd a small but increasing depression travelled northeastwards across France from the Bay of Biscay to the Netherlands, where it finally filled up or dispersed on the 4th. The advance of the depression was attended by heavy rain at the English and French stations—the largest amounts in the 48 hours ending 8 a.m. of June 4th being 1·3 inches at Liverpool and Oxford, 1·2 inches at Belfort, 1·1 inches in London and at Loughborough, and 1·0 inch at Holyhead and in Paris. On the early morning of the 3rd a little snow fell at Lutterworth, in Leicestershire. Very little rain fell in Dublin during this period.

Throughout the greater part of the week ending Saturday, the 11th, cyclonic conditions held to the northward and westward of the British Islands, while the barometer was high over France. Consequently fresh S.W. or W. winds were experienced, and some rain fell in Ireland and Scotland. On Tuesday, the 7th, the wind rose to a moderate gale at some stations. Subsequently the weather became warm and settled, and not a drop of rain fell in Dublin or the vicinity.

From the 12th to the 18th inclusive, very fine, warm weather prevailed in France, England, and the East of Ireland, whereas it was less settled in the west of Ireland and in Scotland. In Dublin the heat was tempered by sea breezes during the daytime, but, notwithstanding, the thermometer in the shade rose to 78·4° on Friday, the 17th. The

maximum on this day at Parsonstown was 82°. On the 18th a decided fall of temperature and local thunderstorms were reported from Scotland.

North-easterly winds and cooler weather prevailed in Great Britain and the east of Ireland in the week ending Saturday, June 25, but it remained very warm in the centre and west of Ireland—at Parsonstown the daily maxima were 82°, 72°, 72°, 79°, 83°, 82°, and 83°; those in Dublin were 75·5°, 64·6°, 67·5°, 72·8°, 74·6°, 72·7°, and 75·6°.

Sunday, the 26th, was a dull, cold day in the S.E. of England, brilliant and very warm in Ireland. On this day the thermometer did not exceed 60° in London and at Cambridge, whereas it reached 74·7° in Dublin and 85° at Parsonstown. During the following night temperature fell to 43° in London and to 36° at Cambridge; but on the 27th, with a clear sky and light S.W. winds, it rose suddenly to 82° in London and 83° at Cambridge. At the latter place, therefore, a range of 47° occurred in 12 hours. The closing days of the month were fine, quiet, and warm, with a tendency for cloud to increase. Heavy falls of rain took place in the north and west of Scandinavia, and severe thunderstorms prevailed in France (particularly in the Pyrenees), but in the British Islands the drought continued.

Luminous cirri were seen from Dublin on the northern horizon on the nights of the 24th and 28th.

In Dublin, the rainfall for the six months ending June 30 has been only 6·741 inches on 67 days, compared with an average of 12·497 inches on 96 days. Only 1·134 inches of rain were registered on 15 days in the months of May and June.

RESEARCHES INTO THE ÆTIOLOGY OF DENGUE.

Dr. J. W. M'Laughlin, of Austin, Texas, has found in the blood, vomit, and urine of patients suffering from dengue a micrococcus about $\frac{1}{20} - \frac{1}{30}$ the diameter of a red blood-corpuscle. The organism was contained in the corpuscles, and existed also free in the plasma. The micrococci occurred singly, in pairs, in chains, and in zoogloœa masses. At a certain stage of their development they were surrounded by a capsule. They were readily stained by an alkaline solution of methyl blue, but resisted the other aniline dyes. He succeeded in cultivating this organism through several generations on nutritive jelly, and also got pure cultures in blood taken, with suitable precautions, direct from the vessels into sterilised glass bulbs. Inoculations on animals do not seem to have been practised.—Reprint from *Journal of the American Medical Association*, June 19th, 1886.

PERISCOPE.

THE MURDER AT THE RUE MONTAIGNE, PARIS.

A RATHER novel point in forensic medicine has arisen in connection with this murder—the victims of which were a celebrated *demimondaine* who, along with her maid and maid-servant, was found murdered in their apartments under circumstances of great cruelty. Their throats had been cut after a severe struggle, and their bedding and the walls of the apartments in their vicinity were copiously bespattered with blood. The unfortunate chief victim was the possessor of jewellery and other valuables to the extent of some thousand pounds, presumably the motive of the murder. These, however, were in an iron safe, and as the murderer, who was evidently single-handed, could neither open this nor carry it away, he had to leave without the wages of his crime. The key was subsequently found concealed in a wardrobe. A man named Pranzini, a follower of the victims, was arrested upon suspicion, but the closest examination of his clothes, both those which he had worn on the evening of the crime and those found at his residence, showed no trace of blood. This was relied upon as a strong point in the defence, but Dr. Brouardel, the *Medicin legiste* engaged in the matter, recalled the fact that in the next apartment was found a toilet-stand upon which was a large basin full of ensanguined water, as if some person stained with blood had washed therein. As none of the three victims had presented the appearance of having done this, Dr. Brouardel conceived the idea that the murderer had, on entering the apartments, undressed himself, had committed the crime in a state of nudity, had then carefully washed himself of its traces, and had finally, all being completed, resumed his clothes, of course free from all sanguineous stains. Dr. Brouardel now demanded from the *juge d'instruction* an authorisation to examine Pranzini totally undressed, and on this being accomplished, found a long tearing scratch (*estafilade*) extending down the front of his right thigh. Interrogated upon this, the prisoner said that he had been attacked by a severe itching in the part and had torn himself in relieving it. Being invited to repeat the gesture he did so, scratching himself from the knee towards the body, when the medical expert showed that the tear had been produced by nails, or at all events some sharp body, acting from above downwards in the direction of the knee, as was shown by the pointed fragment of epidermis projecting upwards from the lower end of the wound. The expert's hypothesis is that when the assailant approached one of his victims, with the weapon in his right hand and with his right side next her, she inflicted the injury with her nails. Questions of blood-stains on clothing have

frequently formed important evidence in murder trials; but the present is probably the first instance of an ingenious plan having been adopted to escape clothing stains, and of its being defeated by an accident developed by the acuteness of the medical expert. Pranzini was convicted, without extenuating circumstances, and was sentenced to death by the guillotine.

F. J. B. QUINLAN.

A VALUABLE METRIC TABLE.

THE *American Popular Science News*, in its recent issue, gives a table, unlike others of the kind, in giving the equivalents of both the common and metric system together, as follows. It is worth preserving for reference, and we therefore reprint it for the benefit of our subscribers:—

Length.

Unit of Measurement	Approximate Equivalent	Accurate Equivalent
1 inch	2½ cubic centimètres	2·539
1 centimètre (1/100 mètre)	0·4 inch	0·393
1 yard	1 mètre	0·914
1 mètre (39·37 inches)	1 yard	1·093
1 foot	30 centimètres	30·479
1 kilomètre (1,000 mètres)	⅝ mile	0·621
1 mile	1½ kilomètre	1·609

Weight.

1 gramme	15½ grains	15·432
1 grain	0·064 gramme	0·064
1 kilogramme (1,000 grammes)	2⅕ pounds, avoirdupois	2·204
1 pound, avoirdupois	½ kilogramme	0·453
1 ounce, avoirdupois (437½ grains)	28⅓ grammes	28·349
1 ounce, troy or apothecary (480 grs.)	31 grammes	31·103

Bulk.

1 cubic centimètre	0·06 cubic inch	0·061
1 cubic inch	16⅓ cubic centimètres	16·386
1 litre (1,000 cubic centimètres)	1 United States standard quart	0·946
1 United States quart	1 litre	1·057
1 fluid ounce	29½ cubic centimètres	29·750

Surface.

1 hectare (10,000 square mètres)	2½ acres	2·471
1 acre	⅖ hectare	0·404

The calculation necessary to convert one system of measurements into the other is very simple. For example, suppose we are directed to use 175 grammes of chlorate of potassium, for making oxygen, how much is it in ounces? We see by the table that one ounce equals 31 grammes; divide 175 by this, and we have 5·6, the required number of ounces. If we wish to measure 53 cubic centimètres of any liquid, 53÷29·5 the number of cubic centimètres in one fluid ounce=1·8 fluid ounce, the required amount. Conversely, suppose we have a quantity of some chemical weighing three-quarters of a pound, and wish to find the metric

equivalent. As one pound is equal to ·453 kilogramme, three-quarters of a pound will be equal to three-quarters of that weight, or ·33975 of a kilogramme; or, as one kilogramme equals 1,000 grammes, three-quarters of a pound will equal 339·75 grammes. The approximate figures in the second column are sufficiently accurate for ordinary work, while those in the third column are correct to the third decimal place. The table was purposely made simple, and only those weights and only those measures are given which are in constant use. In this connection may be added a set of rules which, if committed to memory, would render the conversion of one system of weights into the other very simple indeed. 1. To convert troy grains into centigrammes, multiply by 6. 2. To convert centigrammes into troy grains, divide by 6. 3. To convert troy grains into milligrammes, multiply by 60. 4. To convert milligrammes into troy grains, divide by 60. 5. To convert troy grains into grammes, or minims into fluid grammes, divide by 15. 6. To convert grammes into grains, or fluid grammes into minims, multiply by 15. 7. To convert drachms into grammes, or fluid drachms into fluid grammes, multiply by 4. 8. To convert grammes into drachms, or fluid grammes into fluid drachms, divide by 4. Gr. i., ·06 gramme; ʒi.,4·00 grammes; ℥i., 30·00 grammes.—*London Med. Record.*

AFEBRILE PNEUMONIA.

Occasionally, in the aged, a croupous pneumonia, typical in every other respect, may be observed to run its entire course without any elevation of temperature. Such cases are rare, yet the possibility of their occurrence is well recognised by those who have a wide experience in the treatment of diseases in the aged, and, doubtless, they are more common than is generally supposed. The idea of a pneumonia running its course with no elevation of temperature is so contrary to ordinary experience that it may well happen that such cases often escape recognition. It has long puzzled clinicians to account for this phenomenon, and it still awaits a perfectly satisfactory explanation. It has been shown that when uræmia is induced in animals there is a notable reduction in the body-temperature, and herein lies a possible explanation of the absence of pyrexia in these cases of senile pneumonia. Dr. Giuseppi Lapponi relates a case, in *Il Raccoglitore Medico* of January 10, 1887, which would seem to sustain this theory. It concerned a woman, aged seventy-four, whose life had always been a hard one, and who had endured privations of many kinds, but had never suffered from any severe illness since her childhood. She was suddenly seized, while in apparently perfect health, with a chill, great oppression in breathing, and a dry and troublesome, though not very frequent, cough. The patient was greatly prostrated, had anorexia, thirst, and some dulness of the mental faculties. The temperature was 98·2° F., pulse 80, respira-

tions 30. The physical signs pointed unmistakably to acute pneumonia in the left lower lobe posteriorly. Thermometric observations were repeatedly made throughout the course of the disease, but the temperature was never found to rise above the normal height. Examination of the urine gave evidences of a chronic nephritis. The tongue was very dry, there was complete anorexia, and the pupils were irregularly dilated, signs which the writer took to be indicative of a slight degree of uræmic poisoning, and it was to this cause that he attributed the entire absence of fever. There may, of course, be, and doubtless are, other conditions which, occurring coincidently with pneumonia, would tend to prevent a rise of temperature such as normally takes place, but this observation would seem to show that one cause, at least, of apyrexia in acute diseases in the aged may be chronic nephritis giving rise to a mild degree of uræmia.—*N. Y. Med. Record*, April 2, 1887.

AN EXPERIMENTAL RESEARCH UPON RABIES.

Dr. Harold C. Ernst, having received two rabbits which had been inoculated in Pasteur's laboratory, undertook to prove experimentally the following propositions:—(1) Is there a specific virus in the brains and cords of rabbits inoculated with Pasteur's material and after his methods? (2) Does the treatment by drying, proposed by him, modify the strength of this virus? And, finally—(3) Does injection with such "modified virus" produce an immunity against an inoculation (or bite) with virus of full strength? His results with the experiments in detail appear in the April number of *The American Journal of the Medical Sciences*. Dr. Ernst began the investigation as a sceptic, but his experiments seem to justify a change from scepticism to a belief in, at least, a portion of Pasteur's assertions. The conclusions which Ernst draws from his experimental work he summarises as follows:—I. There exists in the cords and brains of animals inoculated in Pasteur's laboratory a *specific virus*, capable of the production of similar symptoms through a long series of animals. II. That these symptoms are produced with absolute certainty when the method of inoculation is by trephining the skull, and injection under the dura mater, with less certainty when the inoculation is by subcutaneous injection. III. That the strength of this virus is lessened when the cords containing it are removed from the animals and placed in a dry atmosphere at an even temperature. IV. That the symptoms produced by the inoculation of this virus appear only after a certain period of incubation, distinctly shorter when the inoculation has been done by trephining, than when done by subcutaneous injection. V. That injections of the virus, modified in strength by drying, and in the manner prescribed by Pasteur, exert a very marked protective influence against an inoculation with virus of full strength. VI. That a very moderate degree of heat destroys the power

of the virus entirely, whilst prolonged freezing does not injure it. As will be seen, all of these conclusions are in complete accord with the declarations of Pasteur; their importance lies in the fact that they were reached at a distance from him, and by work entirely separated from any personal influence or bias.

CURATIVE POTENCY OF PROLONGED SLEEP.

Dr. J. Leonard Corning, of New York (Proceedings of the Med. Soc. of the State of New York, Feb., 1886), says:—Prolonged sleep may, therefore, be set down as the cardinal principle of physiological brain rest. It must, however, be combined with systematic and scientific overfeeding, in order that repair of the exhausted brain may proceed in a physiological manner during the interval of unconscious repose. The essential features of a scheme of brain rest, then, are—1. Progressively prolonged sleep; 2. Increased general and cerebral nutrition; 3. Diminution of psychical irritation; 4. Elimination of sensory impressions, particularly those of sound. In carrying out this scheme of treatment, Dr. Corning is in the habit of secluding the subject in a darkened room, eventually for from 10 to 15 hours at a time, according to the amount of sleep it is desired shall be had during the 24 hours. The amount of sleep is progressively increased by habit, moderate medication, and hydrotherapy, but he never resorts to forced sleep by the reckless abuse of sedatives. When the patient awakes, as is sometimes the case, two or three times during the hours set apart for rest, nourishment is administered, but always in an easily digested form. The few hours of wakefulness are devoted to some form of amusement, but all forms of mental exertion are strictly prohibited.—*Technics.*

THE MEANS OF TOPOGRAPHICAL DIAGNOSIS OF FOCAL DISEASE AFFECTING THE SO-CALLED MOTOR REGION OF THE CEREBRAL CORTEX.

The necessity for exact knowledge of the relations between the external surface of the head and the various encephalic regions has arisen so rapidly within the last few years as to force each practical surgeon to work out the required facts for himself with the aid of the few papers that have appeared on the subject. Owing to the absence of any comprehensive monograph giving a complete directory, as it were, of those parts of the brain whose function is so far understood as to admit of the localisation of lesions within their boundaries, Mr. Victor Horsley has presented in the April number of *The American Journal of the Medical Sciences*, for the use of those who may be called upon to explore the cranial cavity, a summary of the means adopted by himself as topographical guides to definite portions of the brain, which have so far, in his experience, fortunately been equal to the exigencies of ten cases submitted to operation. The localisation of disease of the encephalon is

obviously a two-sided process. First, the diagnosis of the seat of the disease in the nerve tissue, by observation of the symptomatic perversion of function; and, secondly, the determination of the particular part of the skull and soft parts covering the focus of disease. The second part of the process has usually been separated from the first, and considered by itself, under the title of cerebral topography, and may, doubtless, with advantage be thus studied as a distinct subject; but it really is in closer connection with the other division—namely, cerebral localisation—than may appear at first sight to the anatomist. Mr. Horsley points out that the localities in which different functions are represented are not separated by hard outlines (and this belief is also borne out by experiment), but that they occupy absolutely constant focal positions, and in this way will in the immediate future be very accurately mapped out. The topographical relations of the so-called motor region to the exterior of the skull are lucidly explained, and then he presents an enumeration and limitation of the areas of representation of the different parts of the body in the gyri thus topographically determined. The text is fully elucidated by numerous diagrams.

RUPTURE OF THE PATELLAR TENDON OF BOTH SIDES.

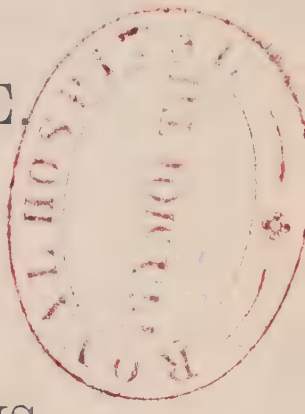
This is a very rare occurrence, as shown by the fact that in 43 cases of intra-patellar rupture of the tendon, which have been reported, 11 only were double. The latest case is reported in *Le Lyon Médical* by M. Ed. Blanc. The trouble occurred in a man of fifty-one years, who is robust and in perfect health. No rheumatism or syphilis is present. Three years ago the patient slipped and fell backwards whilst carrying a heavy hod. He made a violent effort to recover his equilibrium, and felt an acute pain in his knee and heard a sharp "crack" at the same time. He could not raise himself or walk home. One year later, while walking along a gully he lost his balance, slipped, and in trying to avoid a fall fell backwards. He felt and heard the same thing in his left knee that he had in his right a year before. His state at present is rather distressing. When he stands erect, with his feet near each other, the slightest weight upon the shoulders causes him to fall backwards. His gait is peculiar; the thigh is thrown outwardly, and each limb in its forward movement describes a semi-circle whose concavity is toward the median line, the trunk at the same time alternately bending to the opposite side, being a marked waddling motion. The patient was deemed one unfit for the operation of suturing the tendon to the patella, and an orthopædic apparatus was deemed best as a means of relief. The case was really one of tearing of the patellar insertion of the tendons rather than rupture, and it is on this account that a surgical procedure was deemed inexpedient.—*St. Louis Medical and Surgical Journal*, January, 1887.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

SEPTEMBER 1, 1887.



PART I.

ORIGINAL COMMUNICATIONS.

ART. VII.—*Our First Campaign in Egypt.* By BRIGADE-SURGEON ALBERT A. GORE, M.D., F.R.C.S.I.; Medical Staff, Army of Occupation.

AT the commencement of the year 1800 a fine army of some 15,000 men, under the command of Sir Ralph Abercrombie, had been collected at Gibraltar with the view of retaking Egypt from the French. On the 23rd October orders were issued for the expedition to start. On 3rd November, Admiral Lord Keith sailed with part of the expedition for Minorca, while the remainder, under Sir Ralph Abercrombie, followed, proceeding direct to Malta, where they arrived on 30th November. A fortnight later, Lord Keith's arrival reunited the expeditionary force. The troops were disembarked for the purpose of being inspected, and the ships ordered to be cleaned. 500 Maltese were enlisted at Malta, and on the 20th December the expedition set out in two divisions for Asia Minor, of the harbours of which very little was known. The harbour of Rhodes was found unsuitable to large ships of war. Lord Keith coasted along until he came to the Bay of Marmorice, which was a fine open basin, approachable only by a narrow channel, and which, lying among high hills, was completely sheltered from storms, already making themselves unpleasant on the coast. Here the sick were at once landed, and shortly afterwards the troops were disembarked, and the infantry practised in manœuvring, while the cavalry were awaiting their horses. Many difficulties now

began. Fresh provisions could not be obtained, though goats' flesh and poultry were procured by the officers at exorbitant prices, and the horses furnished by the Turks were so bad, that out of several hundred only two hundred were found fit for cavalry; and, to complete their misfortunes, on the 8th and 9th February, a storm of terrible fury raged over the camp—the hailstones, as big as walnuts, lying two feet deep—the torrents from the mountains sweeping everything before them—while, to add to the foregoing, the horses broke loose, and much exposure of the troops to the vicissitudes of climate resulted. On the 20th February, the day previous to re-embarkation, there was present and fit for duty 14,895, including 803 sick, sick absent 911, making a total of 16,599. Included in those present and fit for duty were the N. C. officers and men sent to the service of the different departments, regarding which Lieutenant-Colonel Wilson (author of the History of the Campaign) remarks:—"The British service was then the only one in Europe where the commissariat, medical, and civil departments had not their distinct followers;" and this with a sick-rate of 10·3 per cent. absent and present.

On the 23rd the fleet sailed, and it was creditable to the discipline of the troops that they left Marmorice Bay without a single complaint being preferred against them.

The voyage was prosperous, and on the 26th they fell in with a convoy from England. On the 1st March they sighted the coast near Arabs' Tower, in small transports of about 250 tons each, and on the morning of the 2nd anchored in Aboukir Bay, without so much as a decent map of the country, and a much under-estimate of the force of the enemy, who, under Menou, were able to put in the field 18,000 men, and leave 10,000 to garrison Cairo and Alexandria, with the enormous advantage of acting on interior lines.

The Turks had not yet recovered from their defeat at Heliopolis, where 50,000 of them, under the Grand Vizier, had been defeated by barely a fourth of their number, while the forces at Sir Ralph Abercrombie's disposal consisted of 15,463 infantry, 472 cavalry, and 578 artillery, incumbered by 999 sick present; a total of 17,512 of all ranks. The French, about 2,000 strong, occupied a position of great strength close to the shore of Aboukir Bay, disposed along the summit of a ridge of sand a mile long, concave, and rising in the centre about 200 feet. At three o'clock on the morning of the 8th March the signal for attack was hoisted,

and by 9 a.m. the long line of 150 boats sprang forward through the hail of bullets and grape which tore through them until the shore was reached, and the heights carried with a loss of 500 of all ranks. Before evening the whole force was landed.

The troops disembarked with sixty rounds of ammunition and two spare flints per man, packs on, and carrying three days' bread and three days' pork ready cooked. Each individual had his canteen full of water; the same quantity of bread and meat was landed in charge of the respective quarter-masters. The officers were only allowed such articles as they could carry themselves. The general hospital stores were landed after the troops, and a proportion of the general hospital staff was attached in the first instance to each brigade, and only such orderlies were taken from the brigade as were absolutely necessary. Regimental surgeons were allowed one orderly each to carry the regimental field-case of instruments. As soon as the troops were landed, the sick of each regiment embarked in transports, and were collected into one of these vessels under the care of the assistant-surgeon, who had to report himself and the state of the men in his charge to the Inspector-General of Hospitals (Mr. Young) on board H. M. ship "Niger." Where there was only one medical officer present with a regiment this duty was assigned to a careful non-commissioned officer. Regiments embarked in men-of-war left their sick under the care of the surgeon of the ship, who received the allowance established in such cases. When necessary, a small proportion of orderly men, selected from convalescents, were left with the sick. Regiments that had women with them were directed to employ them as nurses in lieu of orderly men. Officers were enjoined to employ every means and use every precaution in their power for the preservation of the health of the troops under their command. The most exact discipline was to be enforced and the most rigid economy in the consumption of provisions, fuel, and water, so as to diminish as much as possible the labour of the soldier. These orders were issued from on board H. M. ship "Kent," Marmorice Bay, February 16th, 1801.

It was further ordered that men going on all detached duties, or duties of fatigue, were to carry with them provisions ready cooked. Only one day's allowance of spirits was issued to the troops, and the canteens were to be filled with water previous to marching. After landing the army was employed in digging for water, which was always found where date trees grew. Before the troops

marched from the heights of Aboukir an hospital was established on the beach.

In a skirmish, on 10th March, 20 Corsican Rangers and the surgeon of the corps (Mr. Smith) were captured by a sudden rush of the French cavalry. Large numbers had already died of a "bad type of fever;" later on, dysentery and blindness made great ravages amongst them, having had nothing to drink but bad water; worn-out boots and clothing, tents unsuitable to the climate, and large arrears of pay—yet not a man was guilty of the smallest excess.

On 8th March, in action with the French, they lost 4 officers killed and 29 wounded; 98 men killed, 489 wounded, and 53 missing. On the 13th, at Mandora, 8 officers were killed, 71 wounded; non-commissioned officers and men, 152 killed, 1,045 wounded.

At the battle of Alexandria, fought on 21st March, the British left rested on Lake Madieh, the centre was behind some low sand-hills, and the right in the Roman palace or Fort, near where Ramleh Hospital is now situated, in which were placed two guns. Here 10 officers were killed, 60 wounded, 3 missing; 233 non-commissioned officers and men were killed, 1,133 wounded, 29 missing. It is on record that "the English tents were torn to pieces by the shot, and thousands of brass balls were lying glistening in the sand; several officers' servants had been killed in the tents, and miraculous escapes of the sick lying in them were told; nevertheless our soldiers—surrounded, partly broken, and without ammunition—continued the conflict. The small mosque in the village close by was the head-quarters of a field hospital, and to it Sir Ralph Abercrombie was borne when wounded." After this the camp was moved to within four miles of Alexandria, not far in front. On 30th March, nine days after the battle of 21st, up to which date, from landing, 488 had been killed and 2,593 rank and file wounded, the actual state of the army was as below. The figures are interesting, as showing the respective sick-rates of the regiments composing the force, and how unequal must have been the duties of the regimental surgeons:—

RANK AND FILE.

—	Regiment	Fit for Duty	Sick Present	Sick Absent	Total
	INFANTRY.				
Brigade of Guards (Ludlow's)	Coldstream Guards .	647	44	159	850
	3rd Regiment of Guards	544	62	256	862
1st Brigade (Coote's)	54th, 1st Batt. .	460	151	27	658
	54th, 2nd Batt. .	362	115	90	576
	Marines .	380	79	—	459
2nd Brigade (Craddock's)	8th Regiment .	361	74	36	471
	13th „ .	375	260	74	710
	18th „ .	359	88	29	476
	90th „ .	438	270	25	743
3rd Brigade (Earl of Cavan's)	27th „ 2nd Batt.	534	41	53	628
	50th „ .	407	86	23	516
	79th „ .	572	102	48	722
4th Brigade (Doyle's)	2nd „ Queen's	513	36	23	572
	30th „ .	359	42	9	420
	44th „ .	220	68	7	295
	89th „ .	341	48	8	397
5th, or Foreign Brig. (Stewart's)	Stewart's .	707	187	31	925
	De Rolles' .	402	110	22	534
	Dillon's .	385	140	21	546
Reserve (Moore's)	23rd Regiment .	362	116	53	531
	28th „ .	488	128	28	594
	42nd „ .	466	300	16	872
	58th „ .	357	110	18	485
	40th „ Flank Compy.	186	41	—	227
	Corsican Rangers .	168	44	—	213
	Staff Corps .	82	3	5	90
	92nd Regt., detached to Aboukir .	373	119	51	543
	General Total .	11,156	3,082	1,182	15,463

TABLE—*continued.*

—	Regiment	Fit for Duty	Sick Present	Sick Absent	Total
	CAVALRY.				
(French's)	11th Light Dragoons .	49	3	—	52
	12th „ .	428	74	—	502
	20th „ .	406	32	—	438
	Hornpesch's .	125	12	—	137
	General Total .	1,008	121	—	1,129
	ARTILLERY.				
	Rank and File .	475	98	5	578
	Gunners and Drivers .	58	13	—	71

On 9th April, General Menou marched towards Rhamanieh, but was attacked by Doyle's Brigade, to which 560 French surrendered. This brigade was afterwards detached to Cairo. On 1st September letters of capitulation were signed by the French, and at eleven o'clock the Grenadier company of the 30th, and other regiments, with colours flying and bands playing, marched into Alexandria in three columns; at noon the French flag was hauled down; 10,528 of the enemy surrendered, including 1,387 sick, but excluding 238 officers and attendants of the General Hospital. The population then numbered about 6,000. On the 14th, the 1st division of the French army embarked from Aboukir for France in high spirits.

During the action at Rhamanieh the French fired occasionally at a mosque near the village where the wounded were placed. It is related that as the surgeon of the 89th was dressing them, a cannon ball broke through the dome, whirled round it, and fell on to his back without doing him the smallest injury. At the final attack on Alexandria the surgeon on board one of the French gunboats was killed, his assistant losing both legs. The medicine chest, containing a good many dollars, floated ashore and became a prize to the 54th. Previous to the surrender, General Menou, in a letter, thanked General Hutchinson "for the humanity shown to his wounded officers and soldiers by the British surgeons."

Major-General Hutchinson's March to Cairo.—On 4th May this officer advanced from Rosetta to Resembal. The effective strength of his army assembled at El Hamid was :—

Infantry - - - - - -	300
Cavalry - - - - - -	4,000
Artillery - - - - - -	112
	4,412

with about 4,000 Turks. On 7th, Fouah (the ancient capital of Egypt) was reached. On 9th, the French were attacked at Rhamanieh. The plague raged in this village; sickness was already beginning to break out amongst the men, who up to this time had carried everything themselves. In the dgerms (boats), taken from the French at Rhamanieh, the knapsacks and stores were now placed, and afterwards carried by water as the column advanced towards Cairo. The inhabitants beheld with wonder the British column following the Ottoman troops in regular order, and preserving the strictest discipline, the soldiers only asking for water. On 11th May they again advanced, halting, after a march of twelve miles, on the bank of the Nile at Shihaghite. The sirocco or kamseen wind, blowing the whole day, parched the men almost to suffocation. On 12th, they marched to Kaffa Handeig, the sirocco still continuing; halted 13th, and moved to Shabour on 14th, where they captured a valuable convoy from the French, containing, among other things, wine, spirits, and £5,000. On 15th, marched and encamped between Zowaff and Zaontal Bahar; 16th, marched to Algam, overpowered by the heat and their exertions; 17th, fought the action of El Kanka; 18th, marched to Menouf; 21st, to Birchamp, a sirocco blowing and the thermometer 120° in the shade. Several horses and camels died, but towards evening the wind changed to the north-west, and it became cool again. Left camp on 27th, and on 1st June were at Mishlei—the delay in the march was owing to a want of commissariat supplies; 4th, marched to Lochmas; 5th, Verdain—ten miles. Sickness had now alarmingly increased; already 1,000 were sent back to Rosetta, and in two days a hospital camp had to be established at the point of the Delta, where the Nile divided into two branches at Exhoue. On 9th, were at Burtos; 15th, Tinash; 16th, Shubra-Cairo, forty-three days after leaving Rosetta; 19th, crossed the Nile; and on 21st, advanced to within a mile and a half of Giza. On 22nd, a flag of truce was sent out by the French

General; 26th, definite articles were agreed to; and on 27th, capitulation signed; and following day, Fort Soulkowfski (present abattoir on road to Abbasseyah) taken possession of by the 30th Regiment, and the Gate of Giza by the Grenadiers of the line. The army was very sickly, and the heat of the weather and advance of the season when the Nile overflows, were now all anxious considerations.

Col. Wilson, who accompanied the column, wrote :—" Certainly no troops had ever shown more resolution, patience, and spirit. The duties of the officers and men had been most severe, yet they bore every hardship without a murmur, and, although four months in arrears of pay, never were guilty of the smallest excess. Dysentery and blindness had made great ravages, and they had little shelter from the burning heat of the sun; their tents offered no resistance to the rays, but rather concentrated their force. Frequently they were obliged to drink only water, and, wanting shoes, had to travel on the fiery soil and on the prickly furzes which covered the surface. All the departments of the army showed the utmost zeal. When, on 6th July, the Grand Vizier came to review the army, it is stated that he was 'delighted at the appearance of the English troops,' who, *notwithstanding their rags*, formed a very martial parade. The Scotch regiments, from being *sans-culottes*, particularly excited his wonder."

On 14th July, General Hutchinson presented the officers of each English regiment with a puncheon of Sicilian wine (Marsala), which was stated to have proved a most agreeable donation; for many of them had not tasted a drop of any kind since leaving Alexandria.

" Never, indeed," writes Colonel Wilson, " had an army before been so abstemious, and consequently so well conducted."

On 13th, the French totally evacuated Giza, under General Belliard (13,012, including 800 sick; in addition were 760 native auxiliaries and 82 employés), and the allied army began their return march to Rosetta. The Turks preceded, the British followed the French, who had flanking parties of their own cavalry, the Mamelukes and English cavalry closing the rear. The sick were carried in the dgerms, 300 of which were alone required for the French sick and baggage.

The following return showed the disposal of the French army in Egypt up to date of leaving Aboukir for France :—

Killed in different actions and died of wounds -	3,000
Prisoners taken in different battles, convoys, &c.	3,500
Garrison of Cairo embarked - - -	13,672
Garrison of Alexandria - - -	10,582
Soldiers dead of the plague and other maladies since landing of the English - -	1,500
	32,180

Killed, wounded, and missing of the British army during the campaign in Egypt, 8th March to 14th September, 1801:—

	Killed	Wounded	Missing
Officers -	22	108	7
Quartermasters -	1	1	1
Sergeants -	20	149	2
Drummers -	2	17	1
Rank and File -	505	2,723	75

Mr. Thomas Young, Inspector-General of Military Hospitals, has left behind the following "Return of Sick":—

1. Sick with army on surrender of Cairo—

(*a*) With their respective regiments before Giza	346
(*b*) In hospital encampment at the point of Delta, under direction of a Field-Inspector -	454
	800

2. Left the army at different times during its march to Cairo—

(*a*) At encampment at point of Delta previous to army taking up a position before Giza	838
(*b*) Sent to General Hospital, Rosetta -	284
	1,122

N.B.—838 includes 454 in hospital encampment at point of Delta. Out of this 838, at point of Delta, 73 died, and 311 recovered and were sent back to duty.

3. (*a*) Sick of the French army at surrender of Cairo 1,800
   (*b*) Taken ill on their march down to Rosetta - 500
   2,300

4. Number of plague patients between 12th April and 26th August, 1801, being the periods of the first appearance and termination of the disease—

(*a*) Admitted - - - - -	380
(*b*) Died - - - - -	173
(*c*) Recovered - - - - -	207

The deaths chiefly fell on the orderlies and nurses and other servants of the hospitals. One staff apothecary, the surgeon of the 1st Battalion, 27th Regiment of foot, and three hospital mates, died of the disease.

(*a*) Number of totally blind - - -	160
(*b*) Lost one eye - - - -	200
	360

The whole sick of the army and those remaining at the Delta were sent down to Rosetta previous to the army returning to the encampment at El Hamid.

According to the 14th Article of the Convention for the Evacuation of Egypt—

"The French sick who could not bear removal shall be placed in hospitals, and be attended by French medical officers and attendants until they recover, when they shall be sent to France. The expense while in hospital to be borne by the French Government."

In the march to Cairo, while the men of the English column suffered from extreme thirst the Turks had always an abundance of water, owing to the custom of having a water-carrier attached to each company with a horse and mussack, from which every man as he passed helped himself.

The following despatch, dated Horse Guards, 18th May, 1801, was received by General Hutchinson :—

"His Majesty desires it may be most solemnly and most forcibly impressed on the consideration of every part of the army that it has been a strict observance of order, discipline, and military system which has given its full energy to the native valour of the troops. . . . The illustrious example of their commander (Sir Ralph Abercrombie) cannot fail to have made an indelible impression on the gallant troops at whose head, crowned with victory and glory, he terminated his honourable career. His steady observance of discipline, his ever-watchful attention to the health and want of his troops, the persevering and unconquerable spirit which has marked his military career, the splendour of his actions in the field, and the heroism of his death, was worthy of the consideration of all who desire, like him, a life of honour and a death of glory."

Some other incidents of the campaign are also interesting and instructive.

His Majesty's 86th Regiment, at end of 1800, embarked on

board Sir Home Popham's fleet in order to take Suez from the French. They were nearly three months beating up the Red Sea, and did not arrive at their destination until the end of April, when they landed and occupied Suez. The regiment had suffered much from fever and had many deaths; neverthelesss, under the command of Colonel Lloyd, on 7th June they started to join Major-General Hutchinson's army at Cairo. Three pints of water were allowed to each man. The temperature in the tents was then 109°, at 11 p.m. 94°. The first march was 11 miles. The tents were pitched during the day. Next day as many men as possible were carried on camels. At 2 a.m. a south wind blew, and raised the temperature to 116°. Half-way a supply of Madeira wine was served out, there being very little water left, and that very bad. On 9th June they reached the springs, where 8 out of the 17 who had fallen out joined. On 10th reached Major-General Stewart's Division at Cairo, 405 strong, after a march of 75 miles. On arrival the men were in a terrible condition from the heat. They had received as rations but a small supply of biscuit since leaving Suez. The plague had compelled them to burn their uniforms, and they had lost almost everything but their arms, knapsacks, belts, and discipline. They were said to have been a fine body of men, mostly old soldiers.

The 68th Regiment, which had also come from Bombay, but chiefly composed of boys, on the passage to Suez lost half from fever, and continued so unhealthy that they had to be sent back, being unable to undergo the hardships of the campaign.

On 8th June Sir David Baird arrived at Cossir, on the Red Sea, from India, and in a short time collected 5,000 camels, and established depots of provisions, and dug wells at different points to Kenneh, on the Nile. By latter end of July his army (5,226 rank and file) had assembled—a grand total of 7,546 persons, including sick. Some companies of the 61st had landed at Cossir on 10th July, and although sixteen weeks on board transports (the regiment exceeded 900 men), so good were the arrangements they are stated to have had only "one sick man." On 30th Colonel Carruthers left with 600 of the 61st for Kenneh, 120 miles (8 marches, averaging from 9 to 19 miles each). Wells had been dug by the Sepoys. The water was brackish, but caused no ill effects except at Cossir. Camels carried water and provisions; the former was flavoured with vinegar, and the mixture found to be a good one for thirst-quenching purposes. The men marched at

night to avoid the heat (110 to 115 degrees by day). Thirst and an almost irresistible oppression from sleep were mostly suffered from, as also the slowness of the marching and its duration—8 to 10 hours. The desert was generally of a very hard, gravelly soil, with a very uneven surface; but the cannon, drawn by bullocks, passed with facility. The men were not allowed to straggle, and took as much rest as possible at the end of each march. In the morning, half a pint of wine, and a ration of rice cooked the evening previous, was issued, and the canteens filled with the water in which the rice had been boiled. Just before each march half a pint of wine, with some rice-water, was given. They were confined to their tents during the day. Two gallons of water, for each man, with an allowance for leakage, was sent in the mussachs. Fresh meat was issued at the third and sixth stations. At the next station to the Nile the Arabs sold milk, eggs, and poultry in plenty, and very cheap, On 29th the column arrived at Kenneh with the loss of only a drummer-boy, strict orders having been given to leave no men behind, but bring those who fell out on camels. Water-kegs were found to withstand the heat much better than the mussachs, which frequently gave way, leading to much distress.

General Baird's Division finally reached Rosetta on 31st August, but too late to take an active part in the campaign. It was related of them—"Never were finer men seen than those which composed this force, and no soldiers could possibly be in finer order." They had sailed down the Nile by divisions from Kenneh in dgerms (500 miles), in ten days, the heat in the boats being over 100°.

Desgenettes was chief physician to the French army. The inspection of his hospitals elicited the warmest admiration. The French at first had more than two-thirds of their army affected with ophthalmia; and during their short stay 160 of our men became totally blind, and 200 lost the sight of one eye. The arid and burning desert, reflection of the soil, heat of the air, and checked perspiration, were believed to have been the causes. Opium was found the best application. Assaleni asserted that he found by observation in the French army that on a battalion infected with the plague leaving its cantonment for another, the distemper ceased, and that no one having communication with it was exposed to the smallest danger, and that the relieving battalion if it quitted the camp shortly did not show any malignant symptoms. Several of the men who escaped from the plague hospital

at Jaffa into the desert returned in three days perfectly recovered, and all those who could be removed from the crowded hospital became convalescent.

The principal cause of dysentery amongst the English troops was believed to have been checked perspiration, the soldiers crowding into the Nile when their bodies were pouring out moisture. At night a damp air also chilled those who did not secure themselves by covering; and during the march to Cairo frequently 50 men a day were seized with this malady and obliged to leave the army. It was found that those sent back to Rosetta or on board ship very soon recovered, the sea air again bracing the system, which had been much relaxed by heat. Flannel shirts and cloth pantaloons were recommended instead of the long gaiter and breeches then worn; as the soldiers, wearied with marching, at night, for the sake of ease and rest, removed the former and exposed the legs and knees to chill. The food of the country was stated to have been indigestible, poor, and bad. Thirty soldiers were drowned bathing in the Nile on the march to Cairo. Prickly heat appears to have caused much annoyance during the rising of the Nile. Among the French at Cairo venereal was very prevalent. In the military operations before Alexandria dysentery caused the greater number of deaths; then liver disease, the plague, fever, and miscellaneous affections. There was a very small mortality from lung disease, and less from sunstroke.

Among the diseases enumerated as endemic at the time were—leprosy, elephantiasis (very common), hernia especially frequent. Syphilis of the most malignant kind, dropsy, sore heads, worms, and liver complaints, were also of very frequent occurrence. Among the minor plagues were rats, insects, and fleas—the last in such enormous quantities that in twelve hours clean linen would become covered with spots of blood—lice, mosquitoes, gnats, scorpions, centipedes, and locusts added their quota.

In 1882, eighty-one years later, in less than six weeks (27th July to 4th September), 781 officers, 63 warrant officers, 15,572 non-commissioned officers and men, and 5,487 horses were conveyed to Egypt in 46 steam-vessels, traversing the distance from England in less than a fortnight, instead of wandering for months about the Mediterranean in crowded and wretched transports—a force very nearly the same as embarked under the command of Sir Ralph Abercrombie in 1801. There were very few sick, a perfect knowledge of the country and its resources; and the men,

instead of being tightly buttoned up in coatees with stiff leather stocks, cumbrous accoutrements, a heavy chako, tight breeches and gaiters—and existing, for the most part, on salt pork and inferior biscuit, bad water, and living in tents unsuitable to the climate—were placed in the most favourable sanitary conditions as to dress, food, and housing, with an abundant hospital staff and many luxuries wholly unknown to their predecessors. During the campaign, from 17th July to October 9th, out of an average strength of 13,013 non-commissioned officers and men, 7,590 were admitted to hospital, and only 172 died—viz., 74 from disease, 5 from accident, and 93 killed in action or died of wounds. Continued fevers and diseases of the digestive system were the chief factors of mortality. Diseases of the digestive system, of the eye, and continued fever, accounted for more than one-half of the admissions; but ophthalmia, which caused such serious losses to our army in 1801, never assumed the severe and aggravated form leading to sloughing or ulceration of the cornea, escape of the aqueous humour, and disorganisation of the eyeball; nor was the affection followed by chronic and intractable forms of granular lids so common after the campaign of 1801.

Art. VIII.—*The Radical Cure of Hydrocele.*

By J. S. M'Ardle, F.R.C.S.I.; Lecturer on Surgery, St. Vincent's Hospital.

Notwithstanding the good results obtained by the ordinary methods of treatment in the vast majority of cases of hydrocele, we still meet with some which are intractable and recur, even after adopting the most vigorous of them. It is in the treatment of such cases that incision and the other methods of which I will now speak prove of service. As far as I am aware there is no new method of treating hydrocele; but since the introduction of the Listerian system of wound-dressing, some of the older methods have been revived with hopeful results. The operations for the radical cure of hydrocele described by Volkmann, Julliard, and Bergmann, are only modifications of the methods of incision and excision described by Celsus. We are all conversant with the steps of these operations, but, with a view to placing the procedures, as I read them, side by side, I have ventured to introduce a description of each method, so that in comparing their results we may not confound one with another.

1. *Incision* (Volkmann).—An incision is made extending from the external abdominal ring to the base of the scrotum and reaching down to the tunica vaginalis. That membrane is incised along its entire length, and bleeding vessels ligatured. The tunica vaginalis is now washed with a three per cent. solution of carbolic acid, and its edges applied to those of the skin by numerous points of fine silk suture; the dressings are then applied. Englisch remarks that it is well to leave the ends of the sutures long, so as to avoid the difficulty of finding them in the swollen tissues when on the third day their removal becomes necessary.

2. *Partial Resection* (Julliard).—After the skin and tunica vaginalis have been cut as in Volkmann's operation, the redundant portions of the latter are removed, and the edges of the remaining portion brought together with fine catgut. A drainage tube is then laid in the wound up to, but not into, the tunica vaginalis, and the skin-wound closed.

3. *Complete Resection of the Parietal Tunica Vaginalis* (Bergmann).—After section of skin and tunica vaginalis, the latter is dissected off close to the epididymus and testicle. Bleeding vessels are now ligatured, a drainage tube laid in, and the skin-wound closed by numerous points of silk suture. In all the operations a three per cent. solution of carbolic acid is used for washing the parts.

The following are brief notes of cases which illustrate the above methods:—

Incision.

Case I.—J. M., aged nineteen years, admitted into St. Vincent's Hospital on the 9th February, 1885, suffering from hydrocele of the right tunica vaginalis; he was otherwise healthy, and being anxious to get rid of the very large hydrocele, which greatly embarrassed him, he willingly consented to any operation for his cure. He had been already treated by puncture and injection, seton and drainage, with the result that the tunica vaginalis had become thick and firm, but had not diminished in size. On the 12th February I cut down on the tunica vaginalis, ligatured bleeding vessels, opened freely into the sac, stitched the tunica vaginalis to the skin, brushed the sac with equal parts of glycerine and carbolic acid, laid in a drainage tube, and applied Lister's dressing. Severe pain set in during the night, temperature rising to 102°; these unfavourable symptoms continued till the third day, when suppuration was established; after this no further rise of temperature occurred; the wound healed rapidly. On the 13th day only a small granulating surface remained, but the testicle was slightly swollen. On the 17th all unfavourable con-

ditions disappeared. In this case, I have no doubt, the orchitis and other troubles resulted from the violent action of the carbolic acid.

Case II.—M. M'N., aged fifty, admitted into St. Vincent's Hospital on the 16th October, 1885. On the 20th the operation was performed as in Case I., but without using the strong carbolic acid. In this case no pain occurred, nor did the testicle enlarge; slight suppuration took place, but, on the 10th day, the wound was reduced to a granulating surface the size of a shilling; in this case the hydrocele was complicated, as all the peri-vaginal tissue was in a state of mucoid degeneration, and had to be removed before uniting the tunica vaginalis to the skin. On the 15th day after operation the patient was about and free from trouble of any kind.

Case III.—J. C., aged twenty-seven years; operation, 10th November, 1885; cure, 25th November, 1885.

Case IV.—T. L., aged thirty-eight years; operation, 12th March, 1886; cure, 19th March, 1886.

Case V.—J. N., aged sixty years; hydrocele very large, and walls greatly thickened, inner surface coated with fibrin; operation, 16th March, 1886; left hospital 30th March, 1886, with small granulating sore.

Case VI.—P. C., aged twenty years; hydrocele multilocular; incision, 20th July, 1886; cure, 5th August, 1886.

Case VII.—J. D., aged twenty-seven; hydrocele large, bilocular, previously treated by injection; incision, 11th January, 1887; cure, 23rd January, 1887.

Partial Resection of Tunica Vaginalis.

Case I.—P. M'G., aged twelve years; hydrocele, simple vaginal, tunica vaginalis thin and translucent, sutured remains over testicle, and closed skin-wound February, 1887. Skin-wound healed on third day, and on 7th all pain and tenderness had disappeared. In April the swelling again commenced, and in May had reached the original size.

Complete Resection of Parietal Tunica Vaginalis.

Case I.—J. M., aged fifty years; hydrocele complicated by extensive periorchitis; sac multilocular; operation, 17th June, 1884; cure, 26th June, 1884; no pain or tenderness, temperature never above 99·2°.

Case II.—D. R., aged twenty-eight; tunica vaginalis greatly thickened and distended; injection, drainage, and simple incision had been tried; operation, 13th October, 1885. The wound was healed on the 10th day, with the exception of point where drainage tube had been.

There is no doubt the operations above briefly described, although devoid of difficulty, are by no means without elements of danger. The dangers, however, can be so minimised by care that the results, as regards mortality, bear favourable comparison with the milder methods—injection, &c. The only one of the three in which there appeared to me some difficulty was that of excision; but when I commenced the operation I was astonished to find the ease with which the distended tunica vaginalis peeled off the front of the cord. Once the incision reached the tunica vaginalis the tunica communis was readily pushed aside, and the membrane removed from its attachment behind. This specimen showed me that the distended tunica vaginalis can be removed much more readily than the sac of the hernia, and with much less danger. In the first place, there is no connection with the peritoneum; in the second, the drainage can be complete.

In discussing the relative merits of the two methods of treatment now in vogue—viz., injection and dissection—the points to be taken into consideration are:—1st, the relative difficulty of the operative procedure; 2nd, the dangers attending them; 3rd, the length of time required for cure; and 4th, the chances of return after each method. In reference to the difficulties of the operations for hydrocele, there can be no doubt but that injection can be done with greater ease than any of the other methods, and that without using any anæsthetic; but incision can (as shown by Julliard) be performed without causing undue pain in the absence of narcosis; while the incision and stitching of the tunica vaginalis to the skin can offer no difficulty to any surgeon. The only way in which (in this regard) the method of dissection is inferior to the injection is that the operation cannot be completed in less than half an hour, while injection can be performed in ten minutes. In making a statistical inquiry as to the relative danger of these operations, we are struck by the infrequent occurrence of troublesome symptoms in all the operations on the tunica vaginalis; and we find that such effects as sloughing of the tunica vaginalis, cellulitis, necrosis of the testicle, and scrotal abscess, follow injection more frequently than the method of incision or resection. This Dr. Otto Weiss, although a strong advocate for injection, has noticed in 115 cases of injection, 5 in which incision became necessary on account of suppurative inflammation of the tunica vaginalis and scrotal tissue, and in many of the remaining cases severe symptoms ensued. In 163 cases of

incision collected by Kraske, only a single instance of suppurative inflammation was recorded, and the occurrence of febrile symptoms was extremely rare. In 20 cases of resection of the tunica vaginalis by Bergmann, not a single instance of febrile disturbance is noted. In Lister's 3 cases, although healing was delayed, no febrile disturbance occurred, and the patients were cured. In 17 cases by Englisch no single instance of suppuration occurred. Julliard 52, only two delays of healing. Küster seems to have been less fortunate in his results, as 2 out of 25 of his cases succumbed, one from septicæmia, the other from pyæmia; the fatal cases had been dressed with thymol instead of carbolic acid. This state of affairs, considering that many of the cases treated by incision were such as had failed after injection—such as hernial hydrocele—shows that the danger of properly conducted dissection is certainly not greater than that of injection.

Now as to the third point, the time required for cure, a comparison will show that even in this there is no such difference as one would expect. The following figures show the relative date of healing after the different methods :—

Injection	Incision	Excision
Billroth, 9th.	Volkmann, 8th–10th.	Julliard, 10th.
Stoltz, 9th.	Küster, 14th.	Bergmann, 11th–12th.
Weiss, 8th–9th.	Lister, 17th.	My cases, 7th–12th.
	My cases, 12th–14th.	

The foregoing list represents the results obtained by those who have recorded cases of radical cure of hydrocele, and may be looked upon as giving results occurring under favourable circumstances; but this holds good for procedures after the operation, and hence the advocates of injection cannot claim for the method a much greater rapidity of cure than can those who advocate incision. Many operators have failed to obtain a healing of the wound as early as noted above. Thus Albert's cases average 21 days; Englisch's varied from 15 to 58; but the delay in healing is not confined to cases treated by dissection, since in Kocher's ca ss, in which iodine injection was used, a large number were still in hospital after four weeks.

In examining into the cause of delay in healing in Englisch's cases one is struck by the little account taken of the bleeding; and by the roughness with which the tunica vaginalis was handled. There can be no doubt but that orchitis and perivaginal hæmor-

rhages delayed the cure, as even in the most carefully-conducted of them small extravasations occurred which retarded healing. Instead of making a primary incision down to the tunica vaginalis and ligaturing all the vessels, he slit the tunica vaginalis—skin and into tissue on a director—and after checking slight hæmorrhage, he completed the operation. There can be no doubt that the rise of temperature in his cases was a resorption fever, as explained by Bramann. There is one other point in reference to the time of healing, which must be borne in mind, and that is the fact that after injection the testicle frequently remains troublesome for weeks, while at the end of the first week, after incision, there is generally no inconvenience, only a small granulating surface being left, to which a dressing of salicylic cream can be applied, and the patient allowed to move about.

The chances of recurrence in the various methods may be tabulated thus :—

Injection.

	Cases.			Recurred.	
Weiss,	38	...	...	6	
Stoltz,	185	...	...	6	
Lewis,	13	...	...	1	
Jacobson,	44	...	...	8	
Krabbell,	10	...	...	2	
Osburn,	25	...	...	18	

Incision.

Volkmann,	163	...	...	1	too small incision.
Küster,	28 / 29 } 57	...	...	2	deficient pressure.
Albert,	10	...	...	1	
Lister,	3	...	...	0	
Rochelt,	5	...	...	1	
M'Ardle,	7	...	...	1	

Partial Resection.

Julliard,	52	...	...	0
M'Ardle,	1	...	...	1

Complete Resection.

Bergmann,	20	...	...	0
M'Ardle,	2	...	...	0

Now, the above figures are an incontestable proof of the superiority of the dissection method, for while 1 in every 8 of those treated by injection returned, only 1 in every 47 of those treated by incision recurred, while there has been, and there can be, no recurrence after excision. Those who favour injection may argue that the bad results have arisen from imperfection in the method of operation. But when 15 per cent. is the recurrence in the Wiener Klinik, we must look to inefficiency in the principle rather than in the method of performing the operation. It is a strange coincidence that the percentage of recurrence after injection is nearly the same in treatment by the most different materials. Thus—

After Iodine -	-	15	per cent.	recurs
„ Chloral hydrate		13	„	„
„ Perchloride of iron		11	„	„
„ Carbolic acid	-	10	„	„
„ Chloroform	-	10	„	„

Although, as Heutin has shown by his pathological examination, the result of injection is occasionally (1–8), as he styles it, the ideal cure—that is, a cure without destruction of the tunica vaginalis—we cannot, however, let this consideration weigh much with us, as that membrane does not seem to be such a physiological necessity as some would have it; since in close on 300 cases treated by incision and excision not a single case occurred in which ill effects have arisen from its destruction. It is thought by some that periorchitis will cause atrophy of the testicle by compression. This is a fallacy, since all the cases of incision and excision examined at times varying from six months to four years after operation are described as having the epididymus free and movable and the cremaster acting.

In the beginning of this paper I called attention to the fact that Julliard had performed most of his operations for partial excision without the use of an anæsthetic. I must not be taken as advocating the avoidance of anæsthesia in those cases, but as local anæsthesia is here inadmissable it is well to bear in mind the fact that cases in which anæsthetics are contra-indicated are not debarred from operation any more than they are from injection.

A question of great importance is the after-treatment. Volkmann describes his method of dressing thus:—

The patient is laid on firm pillows, so that the pelvis and its neighbourhood are accessible from all sides. After washing out

the incision, the scrotum is surrounded by eight to ten layers of carbolic gauze three or four fingers wide; a very large dressing of eight layers of gauze covering the perinæum, scrotum, and passing over the femoro-scrotal fold, and up to the umbilicus, is then applied, the penis being passed through a slit in the anterior part of the same. Gauze bandage steeped in carbolic solution is then applied, being pressed into the femoro-scrotal fold. The root of the penis is then surrounded by a mass of salicylic wadding; a similar mass is pressed firmly into the perinæum between the anus and scrotum. A second bandage is now applied to retain the wadding *in situ*.

It is important in reference to the dissection methods to decide the cases in which the different procedures will be likely to prove most useful. From the foregoing statistics we see that we may have a recurrence after incision or partial resection; such a result may be prevented by selecting our cases for each of the operations. Where periorchitis with greatly thickened sac exists excision of parietal tunica vaginalis is best. When the sac is thick but freely movable, and in the absence of periorchitis, partial removal of the parietal tunica vaginalis will suffice. When the membrane is very thin, and has resisted the injection method, partial resection is liable to result in a temporary cure only, while incision or excision of parietal tunica vaginalis will effect a permanent cure.

In conclusion, I beg to remark that I must not be taken as advocating the removal of the tunica vaginalis in all cases of hydrocele, nor must I be understood as in any way discountenancing injection, which I hold to be the most generally useful method. I have adopted and recommended the method of dissection only in those cases in which injection has been tried and found wanting.

Art. IX. — *Idiosyncrasy.*

By George M. Foy, F.R.C.S.; Surgeon to the Whitworth Hospital, Drumcondra.

For the purposes of the present paper I regard idiosyncrasy as a physiological condition which is abnormal occurring in an otherwise healthy person.

Idiosyncrasy must be distinguished from the modifying influence of disease, which not infrequently exhibits closely allied phenomena, as when pain makes us tolerant of opium, and also when in irritable states of the stomach food vomits.

We may, I think, arrange idiosyncrasies in five groups:—

1. Where the food or drug has an effect entirely different to that which it usually produces: the smell of a rose causing swooning, strawberries producing a rash, opium griping, purging, and vomiting.

2. Where a minute dose produces effects altogether disproportionate to its quantity: as half a grain of gray powder purging a strong man, or quarter of a grain of iodide of potassium producing coryza.

3. Where a large dose is inert: as when strong emetics produce no effect.

4. Where poisons seem to have no effect: as the immunity from vaccine and smallpox that some enjoy, and the immunity of Greenlanders from syphilis, and of Chinese and Negroes from yellow fever.

5. Where there is increased sensitiveness to animal poisons: as the peculiar liability of some persons to typhus, and the recurrence of smallpox in an individual who had been twice vaccinated—once in infancy and afterwards in adult life.

Certain idiosyncrasies are racial. Thus, it would be an idiosyncrasy for a Greenlander to contract syphilis quite as much as for a European to have an immunity from it; and a similar rule holds good with regard to the immunities of Chinese and Negroes from yellow fever. In the last we have an extraordinary evidence of the influence of hereditary peculiarities to protect against certain powerful poisons—all the more strange because, as a rule, animal poisons are usually most destructive to semi-civilised and savage peoples.

In considering individual idiosyncrasies we must be careful to eliminate all possible sources of error, such as mental peculiarities or emotional conditions, and especially effects resulting from association of ideas. How much mental states influence secretions is shown by Dr. Carpenter's case of the breast-milk of an angered woman poisoning her baby. In this case we find a secretion suddenly changed by the onset of passion. The effect of pleasant or unpleasant news on digestion is well recognised. The influence of association of ideas in producing unusual results is so well known as merely to require mention; but, except the impression produced by the associated idea is so powerful and persistent as to permanently modify the physiological function of the individual as to allow of transmission, it cannot be said to produce an idiosyncrasy,

though the persistent peculiarity may in process of time so modify the physiological function as to produce a condition not distinguishable in its effects, and only to be known by its history. Habit and occupation may also cause very considerable deviation from the normal. The quickness of cerebration of a city-editor or a leading barrister results from practice as well as hereditary gifts, and is sometimes in striking contrast to the more slow cerebration of the equally intelligent farmer. The quickness of thought of the city men seems abnormal until you learn that all those who succeed in the same occupation acquire it, and study to preserve it, and that it is as much due to training as is the delicacy of balance of the equilibrist.

Idiosyncrasy may be either hereditary or acquired, and may be either temporary or permanent. It may result from reversion to an earlier type occurring in highly evolutionised animals. Reversion to earlier anatomical types and psychological states are not very unusual. The stag-horse of Munich, and the cleft-footed foal which was exhibited in this city, are examples of reversion to the hipparion type, which is separated from us by geological periods of time; and, had the reversion been carried to the eo-hippus, we would have had a five-toed, flesh-eating animal, instead of the hipparion-like grass-eater—though it is probable that the hipparion eat a mixed diet, and, therefore, we might naturally expect that the stag-horse of Munich, and the Irish cleft-hoofed foal, should have a physiological system more suited for a mixed dietary than would an ordinary horse, and, in thus deviating from the normal, have an idiosyncrasy. If we accept the theory that "animals are made by circumstances for circumstances," it naturally follows that as long as circumstances are unaltered, or only very slightly so, so long do forms persist unchanged or very little changed. But the persistence of certain structures long after they have ceased to play a useful or necessary part in the organism—such as the vermiform appendix and the pineal gland—shows how strong the hereditary influence, and as the alimentary system is modified by each skeletal change, so also the physiological function is affected. Thus, slight variations extending through long ages will in time so influence the physiological function that, should any reversion occur, a healthy person would be found whose physiological state was affected differently from that of his fellows. This result may occur by some irregularity of evolution *in utero*, for we cannot, I think, look upon a uterine development of the ovum other than as

a series of evolutionary changes, condensing into the period of uterine existence—changes which were once extra-uterine, and could be measured only by geological epochs.

Or we may consider idiosyncrasies as the result of some increased functional sensitiveness, and this may particularly apply to acquired peculiarities. M'Cosh, whose Psychology is a text-book in two hemispheres, records some astonishing examples of the extreme delicacy of touch which some blind persons acquire; and we are familiar with stories of the keenness of sight and hearing of savage tribes. All these amazing proofs of the effect of persistent and careful education of the special senses give ground for believing that idiosyncrasy may become acquired by increased functional activity of a part. A person with an idiosyncrasy of smell may detect a something injurious in the smell of a rose which our blunt perception fails to recognise, or may, from some peculiarity of the anatomical arrangement of the nerve, get much pleasure from the smell of asafœtida, as did James Sheridan Knowles.

How much idiosyncrasy may be due to anatomical arrangement we cannot say. We do know that definite skeletal types are found associated with distinct physiological conditions, and we see in the human fœtus that the physiological changes resulting from extra-uterine conditions produce a series of anatomical changes; and we know that pathological changes which produce anatomical alterations are found associated with psychological and physiological changes—the well-known crow-bar case may be quoted as an example. Abnormal arrangements of the blood-vessels, or even an increased or diminished power of conductivity of the nerve axis may explain the presence of an idiosyncrasy; but we have no standard from which to judge and no method sufficiently reliable to insure confidence. In some respects it resembles peculiarities of the special senses—Daltonism, for instance—and it is highly probable that when we know more of these states of the nerves of special sense we will have advanced a step toward the solving of the problem.

We do know that peculiarities of the nervous system can often be traced back to forefathers; and he who reads the lives of Henry of Navarre and Louis XIV. need hardly be told that one was the ancestor of the other. In both the same obstinacy of purpose, the same patient waiting to complete their schemes, and the same quickness of action when the time for action came. But what is particularly interesting, from a physiological point of view—they both, irrespective of their necrosed maxillæ, had a most sickening

stench from their bodies. In this case we have an example of a reversion to an ancestral set of peculiarities—anatomical, physiological and psychological—that warrants the statement that we have good grounds for believing idiosyncrasies may be the result of reversion to an earlier type or condition.

How persistently anatomical and psychological peculiarities may be transmitted is unusually well shown in the history of the House of Burgundy. The same fixed determination not to tolerate opposition; the same peculiar religious views, that would subordinate all ideas to accord with theirs; and the same protruding lower jaw that disfigured the face of Mary, made mastication impossible to Charles the V., and enabled the woodcutter of the Netherlands to recognise Philip the II., whilst yet a boy, were hereditary. And if psychological and skeletal peculiarities are so transmitted, we may accept the facts as grounds for concluding that physiological peculiarities, which at first may have resulted from association of ideas, will, in succeeding generations, become fixed in some individuals, so that idiosyncrasy results.

Acquired idiosyncrasies are the most difficult to form an opinion upon, because unless some incident occurs to bring out the fact, an idiosyncrasy may remain many years unrecognised by the individual so afflicted. And in those cases where it has unmistakably been acquired—which are probably very few—there is much difficulty in eliminating all possible sources of error. In early life, if the idiosyncrasy is found in connection with food, there is the great probability of some association of ideas; if found in connection with medication, the search for evidence of hereditary transmission is carried on amidst great difficulties. Late in life, the pathological changes resulting from attacks of sickness so modify the physiological function, that to decide how much is due to existing pathological conditions, and how much of the peculiarity is purely the result of an acquired idiosyncrasy, requires a good knowledge of the life, not only of the individual, but also of the lives of his parents and grand-parents—information more accessible to our country brethren than to city men. I have known but one unmistakable instance of acquired idiosyncrasy:—A young man took a dislike for butter, and, after a little, the desire to overcome the dislike caused him to try and eat the food, though distasteful to him, when, to his surprise, he found fresh country butter sickened him, even in very small quantities. For years he was unable to eat it, though all the members of the family enjoy

butter, and eat considerably more than the average quantity of it. Acquired idiosyncrasies, when they do occur, are usually temporary; and from this fact we may with some reason assume that the producing cause is more due to altered functional action rather than to histological change. The nervous or vascular systems may, under certain unrecognised conditions, have increased or diminished functional sensitiveness. In the case detailed, the rapidly unpleasant effects of the butter were probably due to the quick production of butyric acid caused by some excessive sensitiveness of the digestive system, which gradually becoming blunted allowed the man to resume his ordinary dietary.

The subject cannot, however, be considered with any hope of successful elucidation until pharmacology has made further onward strides—until we accurately know the normal result we cannot measure the deviation from it. But difficulties should not intimidate us; uncertainty is as natural a precursor of knowledge as is the gray dawn a forerunner of noonday light. Positiveness and assertion are the companions of ignorance. There was, no doubt, no uncertainty in medical teaching when astrology was looked upon as the guide to therapeutics, and Ficinus, Bellantius, Pirovanus, and Sir Christopher Heidon were authorities; when each might say, as the good wife of Bath confessed in Chaucer—

> "I followed aye my inclination
> By virtue of my constellation."

Paracelsus was without hesitancy when he boldly declared "that a physician without a knowledge of stars can understand neither the cause nor the cure of any disease." Yet, even in that age, Medicine did not let the lamp of truth die out, and in the darkest period of historic time she taught her votaries to love truth for itself.

ART. X.—*Expectancy as an Element in the Exaggeration of Railway Injuries, Real and Imaginary.*[a] By H. C. TWEEDY, M.D., Dubl., F.R.C.S.I.; Physician to, and formerly Lecturer on Medical Jurisprudence in, Steevens' Hospital, Dublin.

IT has been observed by Sir Walter Scott that, in travelling—"If we have found any stage particularly tedious or in an especial degree interesting, particularly short or much longer than we expected, our imaginations are so apt to exaggerate the original

[a] Read before the British Medical Association, in the Section for Psychology, Thursday, August 4, 1887.

impression that on repeating the journey we usually find that we have considerably overrated the predominating quality, and the road appears to be duller or more pleasant, shorter or more tedious, than what we expected, and, consequently, than what is the actual case. It requires a third or fourth journey to enable us to form an accurate judgment of its beauty, its length, or its other attributes." The knowledge of this powerful influence of first impressions, and the manner in which such impressions may become modified when the mind has recovered its true balance, should form the keynote of all inquiries into the complicated relations between mind and body, lest, on the one hand, we should be inclined to lay to the charge of imagination phenomena which may have a definite physical origin, or, on the other hand, to fall into the equally serious error of attributing to purely physical causes what may be the result of a disordered imagination, reacting upon a body which is, as we shall see, most susceptible of such influences.

The most obvious instances of the mutual reaction which takes place in health between mind and body may be seen in the phenomena of laughing, crying, blushing, vomiting, facial expression, &c. In each of these cases an influence from without reaching the sensorium will excite active disturbance in the cortex of the brain, as the result of which emotional impulses will stream down to the local vasomotor apparatus, the lachrymal apparatus, &c., causing in each case the visible expression of such emotions as grief, pleasure, rage, or disgust, with which we are all familiar. The mechanism by which these phenomena are brought about is very clearly and succinctly stated in the last edition of Dr. Tuke's admirable work, "The Influence of the Mind upon the Body," p. 23.

Again, sudden shock or intense mental strain is capable of producing on the body not merely vivid sensations of pain, but absolute objective results, more or less permanent in their character. As an example of the former, let me quote a remarkable case detailed by Prof. Bennett, of Edinburgh ("The Mesmeric Mania of 1851") :—

"A butcher was brought into the shop of Mr. Macfarlan, the druggist, from the market place opposite, labouring under a terrible accident. The man on trying to hook up a heavy piece of meat above his head slipped, and the sharp hook penetrated his arm, so that he himself was suspended. On being examined he was pale, almost pulseless, and expressed himself as suffering acute agony. The arm could not be moved without causing excessive pain; and, in cutting off the sleeve, he frequently cried out, yet when the arm

was exposed it was found to be quite uninjured, the hook having only traversed the sleeve of his coat."

Here there could be no question as to the acuteness of the pain and the pulseless condition of the sufferer, and yet the pain entirely arose from the mental impression of the hook having actually penetrated his arm.

But the physical consequences of shock or intense mental strain are not merely confined to subjective sensations. There are numerous instances of palpable morbid changes resulting from such causes. Take, for example, the sudden arrest of pigment formation, which results in premature blanching of the hair, from grief, fright, &c. In an interesting paper ("Revue des deux Mondes," 1872, p. 79), M. Pouchet recounts a number of instances of this remarkable change. Further instances may be found in a paper read before the Royal Society, in 1867, by the late Sir Erasmus Wilson, who adds a very typical case which I have not seen noticed elsewhere—viz., that of John Libeny, the would-be assassin of the Emperor Francis Joseph of Austria; the *Times* correspondent remarking that, when brought to the place of execution a week after his crime, his appearance was much changed, further observes that "his hair, which was black, had become nearly snow-white in the preceding forty-eight hours, and hung wildly about his head, his eyes seemed to be starting from their sockets, and his whole frame was convulsed."

Again, Dr. Carter relates the following case:—"A lady who was watching her little child at play, saw a heavy window-sash fall upon its hand, cutting off three of the fingers, and she was so much overcome by fright and distress as to be unable to render it any assistance. A surgeon was speedily obtained, who, having dressed the wounds, turned himself to the mother, whom he found seated, moaning and complaining of pains in her hand. On examination, three fingers, corresponding to those injured in the child, were discovered to be swollen and inflamed, although they had ailed nothing prior to the accident. In four and twenty hours incisions were made into them, and pus was evacuated; sloughs were afterwards discharged, and the wounds ultimately healed." ("The Pathology and Treatment of Hysteria," p. 24).

Once more, there is another very remarkable way in which the influence of the mind unon the body is manifested—that is, where the attention of the individual is fixed upon some particular object, with the expectation that certain results will follow. This attitude

of expectancy has apparently such a powerful effect on the organisation that not merely are subjective sensations produced corresponding to the expected results, but absolute motions of voluntary and involuntary muscles, tending to produce the very phenomena which were expected, and all this quite independently of any consciousness on the part of the individual that any efforts of their own were tending to produce such results. Let me give some examples of this. About forty years ago, the late Dr. Gregory, Professor of Chemistry, University of Edinburgh, was instrumental in introducing into this country the knowledge of a new and peculiar force (allied to the animal magnetism of Mesmer), to which its discoverer, Baron von Reichenbach, had given the name of "Odyle." By virtue of this "new imponderable," as it was called, it was contended that certain "sensitive" subjects were peculiarly affected by the proximity of magnets or crystals. After a magnet had been drawn along the arm of one of these subjects, strange sensations would follow, a feeling of prickings, or shootings, strange odours proceeding from it—sparks and flames issuing from its poles, and from the hands, eyes, and mouths of the operators. It was further stated that for some of these "sensitives" the magnets or crystals had so powerful an attraction as to attract them towards them without possibility of resistance.

It was, however, conclusively shown and admitted by von Reichenbach himself that when the magnet was delicately poised it never showed a tendency to be drawn towards the hand, and further that no manifestation of odylic force could be obtained save through the conscious human being; the attraction then, though real to the subject of it, was generated by the idea in the subject's own mind. The true explanation of these phenomena was given by Mr. Braid after many experimental inquiries, many of which were witnessed by Dr. William Carpenter, who thus describes what he saw:—"He (Mr. Braid) found that not only in hysterical girls but in many men and women 'of a highly concentrative and imaginative turn of mind,' though otherwise in ordinary health, it was sufficient to fix the attention on any particular form of *expectancy*—such as pricking, streaming, heat, cold, or other feelings in any part of the body over which a magnet was being drawn; luminous emanations from the poles of a magnet in the dark, in some cases even in full daylight, or the attraction of a magnet or crystal held within reach of the hand—for that expectancy to be fully realised, and conversely the same sensations were

equally produced when the subjects of them were led to believe that the same agency was being employed, although nothing whatever was really done, the same flames being seen when the magnet was concealed by shutting it in a box, or even when it was carried out of the room without the knowledge of the subject or the attraction of the magnet, for the hand being entirely governed by the idea previously suggested, positive or negative results being thus obtained at either pole, as Mr. Braid might direct." ("Mesmerism, Spiritualism," &c., 1878, p. 33.).

Interesting examples of Mr. Braid's experiments may be found in his own work, "The Power of the Mind over the Body," 1846, pp. 14, 15, 17, 20, 31.

We have all been familiar from childhood with the schoolboy's trick of holding a button suspended from a piece of string over a tumbler, when, after a time, it would begin to oscillate and strike the edge of the tumbler, giving approximately the hour of the day. This was, many years ago, proved to be the result of unconscious muscular action by M. Chevreul ("De la Baguette Divinatoire, du Pendule dit Explorateur et des Tables Tournantes," Paris, 1854). During the "Odyle" craze a modification of this "Pendule Explorateur" was constructed by a Mr. Rutter, of Brighton, under the name of "Magnetometer." This was a sort of frame mounted on a fixed stand, and having a ball suspended from its free extremity. When the finger was kept on the instrument for some time, the ball began to oscillate; but careful observation soon proved that the constancy and definite direction of the vibrations depended on the condition that the operator was watching them, and were, in fact, the result of expectancy. In proof of this Dr. Carpenter relates (*op. cit.*, p. 45) "a very amusing *exposé* of the mystery of the 'Magnetometer,' resulting from its application by Dr. Madden, a homœopathic physician at Brighton, to test the virtues of his globules, as to which he had, of course, some pre-formed conclusions of his own. The results of his first experiments entirely corresponded with his ideas of what they ought to be; for, when a globule of one medicine was taken into his disengaged hand, the suspended ball oscillated longitudinally; and when this globule was changed for another of (supposed) opposite virtues, the direction of the oscillations became transverse. Another homœopathic physician, however, was going through a similar course of experiments; and his results, while conformable to his own notions of the virtues of the globules, were by no means

accordant with those of Dr. Madden. The latter was thus led to reinvestigate the matter with a precaution he had omitted in the first instance—namely, that the globules should be placed in his hand by another person without any hint being given him of their nature. From the moment he began to work upon this plan the whole aspect of the subject was changed—globules that produced longitudinal oscillations at one time gave transverse at another, whilst globules of the most opposite remedial virtues gave no sign of difference. And thus he was soon led to the conviction, which he avowed with a candour very creditable to him, that the system he had built up had no better foundation than his own expectancy of what the results of each experiment should be; that anticipation, expressing itself unconsciously in involuntary and imperceptible movements of the finger, communicated a rhythmical vibration to the framework when the oscillations of the ball suspended from it were watched."

In the same way the mysterious forked hazel-twig, termed the Divining Rod, is nothing but another instance of expectancy guiding the muscular movements of an expert, so that (himself meanwhile unconscious of the influence under which he is acting) the twig, grasped by its two prongs, dips over the spot where water or metallic veins are to be found. The word expert is used advisedly, as, in the first place, few persons obtain any results whatever from the use of the divining rod; and the following instance will show that, even in the hands of an adept, the divining rod is useless when the individual is blindfolded, no matter how successful he may previously have been when testing its supposed virtues:—In the *Review of Medicine and Pharmacy* (New York), Sept., 1875, Dr. Beard relates—"A friend of mine, an aged clergyman of thorough integrity and fairness, has, for many years—the larger part of his natural life, I believe—enjoyed the reputation of being especially skilled in the finding of places to dig wells by means of a divining rod of witch-hazel, or the fresh branches of apple or other trees. His fame has spread far, and the accounts that are given by him and of him are, to those who think human testimony worth anything, overwhelmingly convincing. He consented to allow me to experiment with him. I found that only a few moments were required to prove that his fancied gift was a delusion, and could be explained wholly by unconscious muscular motion, the result of expectancy and coincidence. In his own yard there was known to be a stream of water running through a small pipe a few feet

below the surface. Marching over and near this, the rod continually pointed strongly downwards, and several times turned clear over. These places I marked, blindfolded him, marched him about until he knew not where he was, and took him over the same ground over and over again, and, although the rod went down a number of times, it did not once point to or near the places previously indicated."

But expectancy is capable of producing on the body more definite effects, and more lasting than those we have been considering up to the present. We are most of us familiar in hospital and private practice with the marked benefit derived from simple substances, when administered to so-called hysterical patients. Bread-pills act as strong aperients, and hypodermic injections of water produce sleep in many cases with absolute certainty. But even in persons who are not of an emotional temperament, the results apparent from expectation of cure, and combined with confidence in the means employed, and the person employing those means, are too well known to be questioned. As a curious example of this, there is no more distinct proof of the power of expectancy than the influence it undoubtedly seems to possess of causing the disappearance of *warts*. Dr. Carpenter gives two cases which occurred within his personal knowledge. In one the warts were disposed of by "counting," in the other by touching each singly with coloured water. I have myself seen several instances in which they have been completely removed by rubbing each morning with the slimy foot of a snail.

(*a*.) "In one case," says Dr. Tuke ("Influence of Mind on Body," 1884, Vol. II., p. 208), "a relative of mine had a troublesome wart on the hand, for which I made use of the usual local remedies, but without effect. After they were discontinued it remained *in statu quo* for some time, when a gentleman charmed it away in a few days."

(*b*.) The same author continues—"A surgeon informs me that some years ago his daughter had about a dozen warts on her hands. They had been there about eighteen months, and her father had applied caustic and other remedies without success. One day a gentleman called, and, in shaking hands with Miss C——, remarked upon her disfigured hand. He asked her how many she had? She replied that she did not know, but she thought about a dozen. 'Count them, will you?' said the caller, and taking out a piece of paper he solemnly took down her counting, remarking, 'You

will not be troubled with your warts after next Sunday.' Now it is a fact that by the day named the warts had disappeared, and did not return."

(*c.*) Dr. Tuke further adds (*loc. cit.*, p. 209)—"In visiting a county asylum some years ago, my attention was directed to several of the patients and nurses who were pestered with warts, and I solemnly charmed them away within a specified period. I had quite forgotten the circumstance until, on revisiting the institution a few months after, I found that my practice had been followed by the desired effect, and that I was regarded as a real benefactor." In each of these cases the assured conviction that the warts would disappear, was, no doubt, the condition on which the efficacy of the charm depended.

That the cure depends on the confident expectation of success, and not by any actual treatment involved in the charm itself, the following instance, given on the authority of Sir Walter Scott, quaintly illustrates. In his account of the trials for witchcraft, which took place in Scotland in the seventeenth century, he narrates the following:—"An eminent English judge was travelling the circuit, when an old woman was brought before him for using a spell to cure dimness of sight by hanging a clew of yarn round the neck of the patient. Marvellous things were told by the witnesses of the cures which this spell had performed on patients far beyond the reach of ordinary medicine. The poor woman made no other defence than by protesting that if there was any witchcraft in the ball of yarn, she knew nothing of it. It had been given her, she said, thirty years before by a young Oxford student for the cure of one of her own family, who, having used it with advantage, she had seen no harm in lending it for the relief of others who laboured under similar infirmity, or in accepting a small gratuity for doing so. Her defence was little attended to by the jury, but the judge was much agitated. He asked the woman where she resided when she obtained possession of this valuable relic. She gave the name of a village in which she had in former times kept a petty alehouse. He then looked at the clew very earnestly, and at length addressed the jury:—'Gentlemen,' he said, 'we are on the point of committing a great injustice to this poor old woman, and to prevent it I must publicly confess a piece of early folly which does me no honour. At the time this poor creature speaks of I was at College, leading an idle and careless life, which, had I not been given grace to correct, it must have made it highly improbable that ever I should

have attained my present situation. I chanced to remain for a day and night in this woman's alehouse without having money to discharge my reckoning. Not knowing what to do, and seeing her much occupied with a child who had weak eyes, I had the meanness to pretend that I could write out a spell that would mend her daughter's sight, if she would accept it instead of her bill. The ignorant woman readily agreed, and I scrawled some figures on a piece of parchment, and added two lines of nonsensical doggrel in ridicule of her credulity, and caused her to make it up in that clew which has so nearly cost her her life. To prove the truth of it let the yarn be unwound, and you may judge of the efficacy of the spell.' The clew was unwound accordingly, and this pithy couplet was found on the enclosed bit of parchment—

'The devil scratch out both thine eyes,
And spit into the holes likewise.'

It was evident that those who were cured by such a spell, must have been indebted to nature, with some assistance, perhaps, from imagination."

But true as it is that expectancy is capable of lending aid towards the cure of disease, it is equally certain that if, in consequence of a shock to the nervous system, or any severe mental strain, the attention be fixed upon a certain part of the body with the expectation that disease either is there or is likely to be there, the probabilities are that before long morbid symptoms will show themselves, either directly connected with the region to which the attention has been directed, or else in a general lowering of the vital powers from imperfect nutrition.

As examples of these statements, witness the fearful convulsions produced by the supposed use of sorcery among savage nations. Strange instances of this may be found in Mr. Ellis' "Polynesian Researches." In an account of the practice of sorcery in the Sandwich Islands, he describes the employment of a "tahu-tahu," or charm, by means of which an evil spirit is supposed to enter into the bodies of those against whom a grudge is entertained, and he goes on to say—"The most acute agonies and terrific distortions of the body were often experienced; the wretched sufferer appeared in a state of frantic madness, or, as they expressed it, torn by the evil spirit, while he foamed and writhed under his dreadful power."

Again, the Obeah practices in the West Indies, by predicting maladies and engendering the expectation of a particular result, often led to the production of the particular disease predicted in

those who were credulous enough to believe in the efficacy of the charm.

Dr. Tuke (*loc. cit.*, Vol. I., p. 99) draws attention to the fact that when a powerful expectation is excited, we are most likely to witness "spasm" or "convulsion." He goes on to say—"The confident assertion that a person subject to epileptic fits will have an attack has frequently proved sufficient to produce one. Madame de St. Amour attained a great reputation in France within the last half century for the power she exercised over nervous diseases. It is related that, on one occasion a young woman was brought to her, when she demanded, 'What is your complaint?' 'Epilepsy,' replied the girl. 'Then, in the name of goodness, have a fit now,' exclaimed Madame de St. Amour. The effect was instantaneous. The patient fell backwards and had a violent attack of epileptic convulsions."

Again, Romberg ("Nervous Diseases of Man," Syd. Soc., 1858, Vol. I., p. 183) quotes the case of a physician at Lyons, "who assisted in the dissection of several hydrophobic patients, and was seized with the conviction that he had been inoculated by the virus. He lost his appetite and was sleepless; when he attempted to drink he was seized with choking and spasm of the pharynx; for three days he wandered about the streets in a state of despair, till, at last, his friends succeeded in convincing him that his malady had its foundation in his mind."

Trousseau, Rush, Trolliet, and Chomel, mention similar cases, which are cited by Dr. Tuke in his valuable work just referred to. So we see not only may real disease be aggravated by expectancy, but, in many cases, ailments originating in fancy and simulating real disease may arise from the same cause.

But again, from constantly encouraging an expectation of disease the nervous system becomes so disordered as to produce definite changes in the function of nutrition. Involuntary and voluntary muscle, each glandular and secreting organ, the spinal cord, and even the brain itself, are all liable to have their functions, modified in this manner. Whether this may result from a want of balance in the antagonistic action of the sympathetic and cerebro-spinal nerves in controlling the circulation, and thus promoting or retarding chemical changes by increasing or diminishing temperature, as was argued by Claude Bernard, or whether there is, in addition—as maintanied by Ludwig, Lister, Rolleston, and others—a direct action of nerves upon glandular

tissue itself, exercising a definite influence over cells, whether pigmentary or secretory, of this we may be reasonably convinced, that mental states, such as attention, expectation, or imagination, are capable of reacting through the nervous system on the bodily functions, and that in a very marked degree.

And this is what makes it so important in railway and other accidents to be in a position to estimate how far the original shock to the system is responsible for the condition of affairs when, after the lapse of time, cases come up for trial in a court of law.

It is not within the scope of our present inquiry to enter into any pathological details regarding nervous lesions consequent upon railway accidents; and we may dismiss from our consideration all those graver forms of injury where the objective signs presented leave no doubt as to the serious nature of the case. But there is another class of cases where the primary injury has been apparently trivial, and where the symptoms complained of are mainly subjective in their character. Such are the cases that frequently end in troublesome litigation, and it becomes a matter of much importance to decide whether the symptoms presented are the result of the original lesion, whether they are merely assumed or aggravated for fraudulent purposes, or whether, without any attempt at deception on the part of the sufferer, injuries trivial in themselves may be unconsciously exaggerated and apparently productive of grave results, which are in reality the outcome of attention and expectancy, the fruits of a disordered imagination, and not at all, or but remotely, attributable to the original lesion.

Difficult as these several cases often are to distinguish, there are certain leading characteristics in each which may enable us to arrive at correct conclusions regarding them—for example, in the case of serious disease following apparently trivial injury, the symptoms will be invariably progressive in their character, some marked objective sign will sooner or later develop itself, such as paralysis, loss of electric excitability, &c., which will place the existence of morbid change beyond all doubt.

Take now cases of fictitious injury or an injury wilfully exaggerated for fraudulent purposes. Here we shall always find the existence of strong motive, usually that of cupidity, with, perhaps, an intermingling of vanity and love of notoriety. Combined with these there will be a marked want of consistency in the symptoms detailed, which will all be subjective and nothing more (unless the previous existence of disease has been dragged in to aid the impos-

ture). Pain will be complained of, but the locality of the pain will seldom correspond with the anatomical distribution of nerves. Loss of memory will be complained of, yet the circumstances of the accident will be recounted with a minuteness of detail, showing an intellectual vigour which is at least open to suspicion. This type of imposture may frequently be detected by diverting the attention of the supposed malingerer from that part of the body which is at the time the object of examination ; as, for example, asking him to put out the tongue, feeling the pulse, or making a stethoscopic examination of the heart, while in the meantime pressure is being made on the spine, or the jerking of a limb is being watched. In such cases the spasm frequently ceases, and the patient no longer winces under pressure that was previously asserted to cause acute agony.

It is true that in cases of functional disorders of the nervous system, such as hysteria, muscular tremors may cease, and spinal tenderness disappear, when the attention has been diverted elsewhere ; and it is also a fact that an especially cunning impostor may be on his guard, and thus elude the effort thus made to detect him ; but for all that, the *ruse* may fairly be relied upon as showing with tolerable certainty that *organic* disorder does not exist.

But now let us see how is the unconscious simulation or exaggeration of disease to be distinguished from real organic lesions on the one hand, and from malingering on the other. Let us suppose a case of this kind :—A man, say, is travelling by rail, when the train, which had been proceeding at a moderate speed, runs off the road. No one is killed, but as there has been considerable oscillation and bumping, several people have been thrown down, partially stunned and generally frightened — our friend among the number ; but, after a time when the passengers are permitted to proceed on their journey, he is able to join them, and perhaps even to walk home on arriving at his destination. The next day he feels stiff and sore, and consults a doctor who, probably, finding no objective signs of injury, merely recommends rest. Sympathising friends, however, begin to call and vie with each other in recounting grievous cases of railway accident, where slight injuries were followed by the most serious consequences. A solicitor is communicated with, and additional medical advice is obtained. The man is of a hypochondriacal temperament, and suggestive questions put to him by the doctors soon produce a number of subjective symptoms, such as " constant pain in the back," " fatigue of the muscles," " incapacity for mental work," " confusion of ideas," " loss of memory," &c. A heavy claim

is made on his behalf, which the railway company refuses to pay, and so the case drags on for months. Meanwhile the unfortunate man, who may be perfectly conscientious, and guiltless of any intention to defraud the company, or even to wilfully exaggerate his sensations, is kept from his ordinary employment; a constant mental strain is kept up, and from continual concentration of attention upon the supposed ailments, and the expectancy of a verdict, a state of suffering very real and very remarkable is produced, and while no organ in the body can be found to have undergone pathological change, and every muscle in the body may respond normally to the ordinary tests, we find, as Dr. Hamilton, of New York, remarks, "an emotional derangement which cannot be shammed, and a depression amounting in some cases to simple melancholia" (*loc. cit.*, p. 367), so that the haggard sufferer presents a pitiable spectacle when the day of trial comes, and is, in himself, a more moving appeal to the sympathies of a jury than the evidence of his physician or the eloquence of his advocate.

Stress has been laid upon the point that in organic disease, the result of shock, some objective sign will almost invariably be found, and that the symptoms will be more or less progressive in their character. But there is another essential point of difference between such a case as we have described and one of real organic disease; that is, in the spinal pain which is invariably complained of. "There is," says Sir James Paget (*loc. cit.*, 221), "no pain which is characteristic of real spinal disease—no manner of pain which may not be closely mimicked; but, in many cases, the nervous mimic pain has characters which are not all found together in real disease of the spine," so that, to summarise his conclusions, "raging racking pain," not confined to one particular spot, variable in its character, aggravated under the slightest touch, unattended by any fixity of the spine, increased by fatigue of any kind, may be taken as arising from nervous causes, and not from organic disease; and, "lastly, it is a sign of nervous pain alone if it has lasted many weeks or months and nothing has come of it." But, once again, in cases of supposed loss of motor power, the solution of the difficulty may often be found in the patient's dread of moving, or in his belief that he is unable to move, when there may be, at the same time, no real impairment of motor function at all. Dr. Page thus refers to this condition:—"Ask any man," says he (*loc. cit.*), "who has had a severe lumbago, whether from a sprain, from rheumatism, or from cold, if he has not, at the same

time, felt a strange sense of difficulty in moving his legs. Brisk walking becomes impossible; the effort to put one leg before the other must be unnaturally great; fatigue comes on early, and the patient complains to you that his legs feel weak, and as if he could hardly move them. Free micturition may likewise be interfered with from lack of the natural support and help which the lumbar muscles provide when this act is being performed. Constipation arises from the same cause. Thus it becomes nothing more nor less than natural for the friends to say that the patient is paralysed, and paralysed from severe injury to the spine. If we do not avoid this fallacy, and do not correctly interpret this state of things, we shall add greatly to the dread, which after railway collisions may be very real, that paralysis is going to supervene." He relates this case :—" A man who had received such injuries as we have described, and was confined to bed in consequence, needed three persons to help him out of bed every time he wanted to pass water during the day. To himself it appeared wholly unaccountable and extraordinary that, whenever he woke in the night, he could jump naturally out of bed without any help for the same purpose. It need hardly be said that the case was perfectly genuine."

But what is the outcome of all this? Plainly,—that the whole question of the assessment of damages for railway injuries should be brought to an issue; in the interests of humanity, in the interests of justice and of common morality. Of humanity—for what amount of damages can compensate an individual who has undergone suffering—genuine suffering—for months, while waiting for the precarious issue of a trial, on which he often really believes the maintenance of himself and his family for the future materially to depend, that belief being fostered by the representations of sympathising friends, by the books on railway injuries which he in all probability frequently reads, and by the conflicting opinions of the various medical men who come to examine him, and leave him in a state of uncertainty (highly injurious to him) as to whether he is or is not to recover.

It should be brought to an issue in the interests of justice—justice not only to the person injured who is, we strongly maintain, entitled to receive compensation, even to the uttermost farthing, for all injury he has received through negligence, but justice also to the railway company; and it can hardly be considered evenhanded justice that a company should be mulcted for injuries for which it

is only remotely responsible. It is, moreover, a curious fact which does not perhaps receive the attention it should, that serious accidents arising from other causes do not, as a rule, attract the same public notice, are not followed by the same exciting litigation, and are not recouped by the same substantial damages, but that it is almost always against railway companies that such proceedings are taken, partly because it has become, as it were, a matter of course to do so, and partly because they are considered what is popularly termed *a good mark*. But again, in the interests of common morality the present mode of procedure imperatively demands revision. It should not be possible that a man could obtain large compensation for injuries, which, it was alleged, left him paralysed on his back for months, when, to the personal knowledge of the writer, the same individual, during the same period, had crossed the Channel several times for commercial purposes. It should not be possible that a man should go unpunished, when, as happened some time ago, within 50 miles of Dublin, and can be fully attested, he appeared in the offices of a railway company—on crutches—assisted by several friends, and on receiving his cheque in compensation for injuries supposed to have been received, deposited his crutches on a table in the room and walked out, saying he would return for them at his convenience.

The whole system is demoralising. It is demoralising to the claimant, with his attendant retinue of doctors and lawyers, who, be they ever so honest, have an irresistible inducement to place their case in the most favourable light to the judge and jury. It is demoralising to the defendants and their staff, who have precisely the opposite aim, and whose main object it is to show up what may be really the serious effects of an accident as being exaggerated, or merely fictitious. And, moreover, it is demoralising to a jury, for not only is there invariably an unconscious sympathy with the plaintiff—a kind of unacknowledged feeling that he is poor and the company rich, that a similar accident might any day happen to one of themselves, but also they frequently forget they are engaged in trying a civil and not a criminal case, and that their function is not, as they frequently assume, to punish a company for negligence, but to compensate an individual for damage sustained. And finally, it is demoralising to all, and especially to a learned profession, to see a number of eminent medical gentlemen arrayed on opposite sides, and with one set of facts before them, drawing the most opposite conclusions from those facts, and swearing to their conclu-

sions with the utmost confidence, when, in the majority of instances, the facts before them admit only of cautious deduction, not of dogmatic assertion.

The only remedy for this unfortunate condition of things, in the present state of the law, is that, on the principle of give and take, in disputed cases the assessment of damages should be made as speedily as possible, and without litigation, not merely in the interest of the railway company, but of the patient, as the writer believes that not merely would the injury sustained be estimated with less risk of self-deception, but that recovery would be less likely to be retarded by the mental strain.

And, with a view to the amelioration of the present law, it might be suggested that independent experts ought to be employed, whose testimony would be free from the imputation of serving the side which summoned them; or else that, as in Admiralty cases, a specialist assessor should assist the court in assigning due weight to the often-conflicting medical evidence, and thus the court, instead of forming a battle-ground for opposing witnesses, or a platform from which to make impassioned appeals to impressionable juries, might be converted into a calm tribunal, where the scales of justice were more evenly balanced.

BRITISH MEDICAL SERVICE.

The following is a List of Surgeons on Probation in the Medical Department of the British Army who were successful at both the London and Netley Examinations. The Prizes are awarded for marks gained in the special subjects taught in the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—Fifty-fourth Session, July 29th, 1887. Combined marks—1. Smith, H. E. H., 6,195; 2. Gore Graham, W. P., 6,150 (gained the Montefiore Medal and prize of 20 guineas); 3. Alexander, G. F., 5,860; 4. Spong, C. S., 5,855; 5. Leishman, W. B., 5,850; 6. Woods, E. M., 5,705; 7. Thomson, J., 5,655; 8. Rawnsley, G. T., 5,460; 9. Reilly, C. W., 5,200; 10. Freeman, E. C., 5,125; 11. Trask, J. E., 5,120; 12. Crofton, W. J., 5,065; 13. Forbes, N. H., 5,065; 14. Blenkinsop, A. P., 4,975; 15. Paterson, J., 4,905; 16. Davoren, V. H. W., 4,905; 17. Wright, A., 4,900; 18. Copeland, R. J., 4,815; 19. Girvin, J., 4,780; 20. Luther, A. J., 4,725; 21. Peeke, H. S., 4,700; 22. Borrodaile, A. L., 4,600; 23. Smyth, R. H., 4,575; 24. Birt, T., 4,555; 25. Hallaran, W., 4,545.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Sphygmography and Cardiography, Physiological and Clinical. By Alonzo T. Keyt, M.D. Edited by Asa B. Isham, M.D., and M. H. Keyt, M.D. New York and London: G. P. Putnam's Sons. 1887. Pp. 229.

This book, published after the death of the author, contains the record of a very great amount of laborious and carefully-executed work. It would be impossible in the space at our disposal to give all the results at which Dr. Keyt has arrived, but we shall reproduce those which seem to us the most important, using, so far as is possible, the very words of the author.

In the Introduction we find a brief history of the sphygmograph and a description of the instrument designed and used by Dr. Keyt. This is a transmission sphygmograph, in which the transmission is effected, not by air (as in Marey's instrument), but by water. Two simultaneous tracings can be made on the same plate, on which there also writes a chromograph, marking seconds and fifths of seconds. The water in the instrument can be brought into communication with a manometer, so that the pressure can be accurately ascertained. The tracings, of which a very large number are given, are of extreme beauty, and no pains seem to have been spared to insure accuracy in their production and interpretation.

The work is divided into two parts—the first physiological, the second clinical.

In the physiological part the first chapter deals with the form, relationship, and chronometry of the cardiac and arterial movements. The conclusions arrived at are as follows:—

"1. The rate of transmission of the pulse-wave along different portions of the arterial tree is not uniform, but considerably diverse.

"2. The rate is minimum for the aorta, maximum for the arteries of the lower extremities, and intermediate for those of the upper extremity.

"3. Along the same arterial line the rate increases as the distance from the heart increases.

"4. In the same healthy individual, in the same arteries, the rate is subject to a limited variation.

"5. In healthy individuals, in the same arteries, the rate is subject to marked diversity, of which the widest is in the aortic.

"6. Both in the same and in different healthy individuals, the presphygmic portion of the systole of the ventricle is liable to considerable variation."

The presphygmic interval is the time between the commencement of the ventricular systole and the commencement of the rise of pressure in the arteries next the heart.

In his tracings of the arterial pulse, Dr. Keyt, like most other observers, finds that the wave is tricrotic. On careful examination the rate of transmission of the secondary waves appears to justify the following rules :—

"1. The interval between the beginning of the pulse and its acme of expansion is the same in all parts of the arterial system.

"2. In certain conditions of the vessels and circulation the second wave keeps close time with the first in its onward flight, while in certain other conditions of the same the second falls notably behind the first in the progress from the heart.

"3. The aortic wave rises later in the distal than in the proximal pulses, and latest in the pulse most distant from the heart."

In children the mean velocity of the pulse-wave is much less—sometimes not more than half that in adults. This difference is most marked in the lower extremity—indeed, in children the rate of transmission may be less in the lower than in the upper extremities. As a rule, the mean velocity of the pulse-wave increases with age. In children the presphygmic interval is much less than in the adult—0·045 sec. against 0·0605 sec.—so that the time difference between the beat of the heart and the carotid pulse is very nearly the same in young children as in the adult.

In the second chapter, on Cardiography, an explanation is given of the cardiac tracing, in which the different factors, such as ventricular contraction and relaxation, variation of volume and of blood pressure, are carefully considered. The three secondary waves of the pulse-tracing are thus explained. The primary rise is due to opening of aortic valves and impulsion of blood into the arteries. The maximum of tension soon falls owing to onward flow of the

blood. The climax of arterial tension, reflected through the open valves back to the heart, raises a small wave of pressure and excites the ventricle to renewed contraction. This causes expulsion of the remainder of the blood in the ventricle and gives rise to the second wave. The ventricle then relaxes and the arterial current sets towards the heart. This causes the aortic notch. The aortic valves close, and check the back current. The rebound of the blood gives rise to the dicrotic wave. The curve then gradually falls, from the flowing-off of the arterial blood.

A very careful and interesting inquiry into the correspondence between the phases of cardiac and arterial movements follows, and conclusions as to the information to be derived from variations in the different parts of the tracing; also a discussion of the meaning of the so-called negative arterial and cardiac traces, which are shown to be due to imperfect application of the instruments. Finally, a consideration of those circumstances which influence the duration of the presphymgic interval.

Chapters III. and IV. are on pulse-wave velocity. The numerous problems connected with this subject are first studied experimentally by means of a scheme of a simple kind. The conclusions are as follows:—

"1. The velocity of liquid waves along the interior of elastic tubes is proportional directly to the stiffness, inversely to the elasticity, of the tube traversed.

"2. It is not sensibly modified by the mode of impulsion, a quick wave and a slow wave being transmitted along the same tube in equal times.

"3. It is proportional inversely to the largeness of the tube.

"4. It is not sensibly modified by different distances from the pump.

"5. It increases with increase of pressure of the liquid in very soft yielding tubes, but in all other elastic tubes it shows no modification.

"6. It is not modified by rapidity of current through the tube.

"7. It is not modified by branches connected with the main tube.

"8. It is not modified by liquids of different consistence.

"9. The distal wave is notably delayed by obstruction of the tube, although its velocity of propagation is not appreciably diminished thereby.

"10. The distal wave is delayed by communication with an elastic pouch more easily distensible than the tube; while, if the pouch and tube are nearly equally yielding, there is no increased delay, yet the velocity of the distal wave is not perceptibly diminished from this cause. Hence,

"11. The increased delay of the distal wave in arterial obstruction and distensible pouch arises from arrest at the site of obstruction and site of the yielding pouch."

From the study of the living arteries the following conclusions are drawn:—

"1. The velocity of the pulse-wave is determined, above all, by inherent states of arterial elasticity—being slower as the arteries are more elastic.

"2. It is incessantly changing, within small limits, in consequence of variations of arterial tone—being faster as the tone is higher.

"3. It diminishes with the size of the artery traversed.

"4. It tends to increase with increase of arterial pressure, but modification from variation of pressure often fails to manifest.

"5. It is not perceptibly modified below the site of an arterial obstruction, but the distal wave is delayed there in consequence of check at the site of obstruction.

"6. It is not perceptibly modified in an artery below the site of an aneurysm, although the distal wave may be delayed there in consequence of absorption by the yielding aneurysmal walls."

Chapter V. is on the presphygmic interval. This varies in duration from various causes. The most important of these are frequency of pulse, shortness of ventricular systole, and lowness of arterial tension. The more frequent the pulse the quicker the systole, and the lower the aortic tension the shorter is the presphygmic interval.

The last chapter of the first part contains observations on the pulse and heart under the influence of severe muscular exercise. The author has had the opportunity of making observations on professional pedestrians, and gives the results which he obtained. Finally, there is a highly interesting discussion of the tracings got from the open fontanels. It is found that the pulsation of the fontanel begins as early as that of the temporal artery in front of the ear, and this although the fontanel is at least four inches further from the heart. Hence the pulsation of the fontanel must be due, not to a progressive transmission of the pulse-wave along the intracranial arteries, but "either the brain must rise *en masse* simultaneously with the arrival of the pulse-wave at the intercranial points of the internal carotid and vertebral arteries, or the intercranial arteries begin their diastole independent and in anticipation of the wave from the heart." It cannot yet be said which of these explanations is the true one, but the author believes that

the solution of the problem is within the reach of experimental inquiry.

In the second or clinical portion, the first chapter is on those pathological conditions which cause a variation in the presphygmic interval. This subject is investigated both by observations on living patients and by experiments with the schema. It was found that—

"1. The duration of the presphygmic interval is *increased* in slow ventricular contraction—in frequent pulsations, relatively high arterial pressure, heavy aortic valves, mitral insufficiency, and probably mitral contraction.

"2. The duration of the presphygmic interval is *diminished* in quick ventricular contraction, frequent pulsations, relatively low arterial pressure, and aortic insufficiency."

The difficulty which often occurs in cases of aortic patency when the question arises as to whether an aneurysm does or does not coexist with the imperfection of the valve is well known, and makes the conclusions of the author on this subject of the highest interest and importance. He finds—

"1. Abnormal precipitation of the arterial pulse (notably the carotid) on the systole of the ventricle, in large aortic insufficiency, is a fact positively established, the phenomenon depending purely upon extinction of the normal ventriculo-aortic, or presphygmic interval. Hence the phenomenon becomes an important diagnostic sign of this lesion.

"2. The presence of the sign is positive evidence of the existence of the lesion, provided only there is no quick febrile movement in the case.

"3. Default of the sign does not occur in the presence of concomitant cardiac lesions, but occurs only in the presence of a yielding aortic aneurysm. Hence,

"4. Absence of the sign is positive evidence of absence of the lesion, provided only there is no aortic aneurysm in the case.

"5. If the diagnosis of aortic regurgitation is otherwise certain, absence of the sign, aortic aneurysm eliminated, is positive evidence of the incomplete nature of the insufficiency."

"If the diagnosis of active aneurysm be certain, and the carotid pulse shows no abnormal delay, the conclusion is justified that aortic insufficiency coexists. If the diagnosis of large aortic insufficiency be certain, and the carotid pulse shows no abnormal precipitation, the conclusion is positive that active aneurysm coexists."

As regards mitral insufficiency the following *resumé* of conclusions is given :—

"1. Abnormal retardation of the arterial pulse, notably the carotid on the systole of the ventricle, is a real phenomenon of mitral insufficiency.

"2. It is present in all cases of pure, harmful cases of mitral insufficiency, and is absent only in insignificant, harmless regurgitation, or in regurgitation complicated with aortic insufficiency.

"3. It measures by the amount of retardation the amount of the regurgitation.

"4. It may be present in two other conditions, probably a third, all organic. These are (*a*) mitral stenosis, (*b*) a locking of pathologically altered aortic valves, so that they are forced open only by prolonged efforts of the ventricle, (*c*) a thin-walled aneurysm of the aorta. Hence this sign, notwithstanding its positive value, is not of itself pathognomonic.

"5. In conjunction with apex systolic murmur its presence is conclusive of mitral insufficiency.

"6. As compared with apex systolic murmur, this sign is more positive and appreciative, and distinguishes, which the latter does not, between harmful regurgitation and harmless conditions.

"7. By the aid of this sign a positive diagnosis may be made at once in any stage of the case, and without waiting for the development of sequences and symptoms."

A case is recorded in which the delay of the subclavian pulse was $\frac{40}{100}$ sec., and that of the radial $\frac{47}{100}$. With a pulse at 80, the normal delay would not exceed $\frac{1}{13}$ sec. The enormous delay in this case was due to the co-existence of the three great causes of pulse retardation—namely, mitral regurgitation, heavy aortic valves, and aortic aneurysm, with yielding walls.

In ordinary aortic constriction the following are the sphygmographic indications :—

"Heart's pulsation, with sustained systole; arterial pulsation, with sloping ascent and rounded or flattened top; interval between beginning of cardiac systole and beginning of arterial pulse normal."

A very remarkable case of aortic disease is recorded, in which the cardio-carotid interval was sometimes normal, sometimes enormously prolonged. On *post-mortem* examination it was found that the condition of the valves was such that on closure they might catch in one another, or become locked. They would then require a prolonged effort of the ventricle to open them, and in this way the occasionally prolonged presphygmic interval is explained. In this case, from the sphygmographic indications, a diagnosis very close to the truth had been formed during the life of the patient.

The conclusions as to the diagnostic value of the sphygmographic tracings in cases of aneurysm differ in some important points

(chiefly as regards deformation of the pulse) from those of other observers:—

"1. *Deformation* of the pulse beyond a suspected aneurysm is of little, if any, value as indicating the presence of aneurysm, but indicates rather the presence of arterial obstruction, which may originate from other conditions as well from aneurysm. Absence of such deformation is no evidence of absence of aneurysm.

"2. *Delay* of the pulse beyond a suspected aneurysm is strong evidence of the presence of aneurysm; and when arterial obstruction and vaso-motor paralysis can be eliminated the sign is conclusive of aneurysm. Absence of such delay is of no value as indicating the absence of aneurysm.

"3. In aneurysm already diagnosed, deformation of the distal pulse indicates the presence of concomitant arterial obstruction.

"4. In aneurysm already diagnosed, delay of the free distal pulse indicates one with free communications, large cavity, and yielding walls; while absence of pulse-delay indicates one with narrow orifice, or small cavity, or resisting walls."

In cases of tricuspid disease the value of the sphygmographic signs is chiefly that they do not show the indications of disease of the left side of the heart.

Professor Flint has described, in cases of aortic insufficiency, a murmur of *blubbering* quality preceding the systole, and best heard within the apex. He places the seat of this murmur at the mitral valve, and explains it by supposing that the back flow of blood from the aorta floats into the mitral valves, and keeps them nearly in apposition, so that they offer obstruction to the current from the auricle to the ventricle when the former contracts. Keyt objects to this explanation, and offers another theory. He states that an interval of $\frac{1}{15}$ sec. elapses between the commencement of the ventricular systole and the supervention of the first sound; so that the latter does not mark, as is generally supposed, the moment when the ventricle begins to contract. Hence a murmur occurring immediately before the first sound is not pre-systolic, but systolic. Under ordinary circumstances the period of systole before the first sound corresponds pretty closely to the presphygmic interval, and the blood begins to flow into the aorta just as the first sound appears. But when the aortic valves are incompetent, the blood flows into the aorta at once on the commencement of the contraction of the ventricle, and may cause a murmur occurring before the first sound, but really systolic and generated—not at the mitral—but at the aortic

orifice. While we admit the ingenuity of this explanation, we confess we should like to be better satisfied than we are with the truth of the fact that there is a long interval between the beginning of the ventricular systole and the first sound. This statement is new to us, and we are not aware that it gets support from the observations of any writer other than Dr. Keyt.

In concluding our notice of this remarkable book we would again bear testimony to the great labour and honest endeavour which it manifests in every page. We are far from accepting unreservedly all the conclusions of our author; but we think that there are many points on which his observations throw more light than those of any previous writer have done. How much more important it is to determine the degree of a cardiac lesion than its mere nature is evident; and it is also evident that mere auscultation will give us only the nature of the lesion. The degree can be ascertained, as we have seen, only by the graphic method. We must, therefore, agree with Dr. Keyt when he says:—

"The diagnostic signs furnished by cardio-sphygmography go hand-in-hand with the evidences of auscultation and percussion, correcting, extending, and completing the latter, and give to cardiac diagnosis unparalleled precision and perfection."

British Medical Association. Fifty-fifth Annual Meeting. Dublin, August, 1887. *Programme of Proceedings, with Guide to the City, and Excursions.* By THOMAS STUART. Dublin: Wilson, Hartnell, & Co. 1887. 8vo. Pp. 72.

WITH a generosity characteristic of an Irish host, Mr. Thomas Stuart presented each member of the British Medical Association, who attended the recent highly successful meeting in Dublin, with a handsomely bound and cleverly written Guide to the city and its environs. In addition, the volume contained a reprint of the official programme for the meeting and information respecting the various excursions which were arranged to take place at its close.

Mr. Thomas Stuart is a well-known merchant of Dublin, to whom the writing of this volume was evidently a labour of love. In recognition of the valuable aid rendered by him to make the meeting a success, he was chosen an honorary member of the Reception Committee—a compliment which we are given to understand he esteemed most highly.

The Guide and Programme were produced by the eminent

Belfast printing firm, Messrs. William Strain & Sons, and the publication of the volume was entrusted to the Dublin printing firm, Messrs. Wilson, Hartnell, & Co., who have every reason to congratulate themselves on the successful issue of their labours.

We should not omit to mention that the volume contains full-page illustrations of the Custom House, Four Courts, Bank of Ireland (Old Parliament House), and Choir of St. Patrick's Cathedral, as well as an eight-page Map of Dublin. Altogether, it forms a very attractive and a valuable *souvenir* of the Dublin meeting of 1887.

Årsberättelse (den åttonde) från Sabbatsbergs Sjukhus i Stockholm för 1886. Afgifven af Dr. F. W. Warfvinge, Sjukhusets Directör och Öfverläkare vid dess medicinska afdelning. Stockholm: Isaac Marcus' Boktryckeri-Aktiebolag. 1887.

The Eighth Annual Report of the Sabbatsbergs Hospital, Stockholm, for the Year 1886. Compiled by Dr. F. W. Warfvinge, Director of the Hospital, and Chief Physician of the Medical Department. Stockholm: Isaac Marcus and Co., Publishers. 1887. 8vo. Pp. 276.

Through the courtesy of Dr. Warfvinge, we are enabled to present our readers with the following summary of the work done in the Sabbatsbergs Hospital, Stockholm, during the year 1886, the eighth year of its existence.

There were 3,169 intern patients, of whom 1,790 were treated in the Medical Department, 1,142 in the Surgical Department, and 237 in the Gynæcological Department. Of these patients, 2,448 went out cured or relieved and 201 without having regained their health; 257 died, giving a death-rate of 8·11 per cent. On January 1, 1887, 263 patients remained under treatment. The number of days of "maintenance" reached 102,100. The average expenditure per diem for each patient amounted to one krona, 39 öre (one shilling and eight pence sterling), of which 34·7 öre (about five pence) were for food, and 8·7 öre (about a penny farthing) for medicines.

The electric lighting, in use since the autumn of 1884, and actually including 228 incandescent lamps, continued to offer advantageous economical results, inasmuch as the cost per hour and per lamp amounted only to 1·04 öre (less than a farthing) in 1885, and

to 1·01 öre in 1886—in these sums are included interest and the liquidation of the debt.

In order to permit the wards to be evacuated and thoroughly aired during the summer months, the hospital procured a transportable Infirmary, or cottage-hospital, with easily-movable partitions of slender planks, and with two wards each capable of containing 13 beds. The cost of this construction amounted to 2,712 krone, 45 öre (a little over £150). It was erected in the hospital grounds.

During the year, 785 capital operations were performed in the Surgical Department and 125 in the Gynæcological Department.

To the Report is appended a *précis* in French of papers and cases reported by various members of the hospital staff. The Senior Surgeon, Iv. Svensson, contributes a paper on "The Operation for Vesical Calculus." The Pathologist, C. Wallis, reports a "Case of Narrowing of the Aorta with Consecutive Hypertrophy of the Heart, and the formation of an occluding Thrombus in the Abdominal Aorta." Dr. F. W. Warfvinge contributes a "Case of Myxœdema." W. Netzel, chief of the Gynæcological Department, writes on "Papillary Cystomata and Papillomata of the Ovaries;" C. D. Josephson on "Ureter-genital Fistulæ;" E. G. Johnson on the "Examination of the Ingesta in Stomach Diseases;" and F. Westermark on "Extirpation of the Fallopian Tube and the Indications for this Operation." Lastly, G. D. Wilkens presents a case of "Periodic Flux of the Gastric Juice."

It will be seen that in all respects Dr. Warfvinge is to be congratulated on the efficiency of the hospital to which he appears to devote his life, not less than on the intellectual activity of the members of its staff.

Hay Fever and Paroxysmal Sneezing; their Etiology and Treatment, with an Appendix on Rose Cold. By MORELL MACKENZIE, M.D., Lond.; Consulting Physician to the Throat Hospital, and lately Physician to the London Hospital. Fourth Edition. London: J. & A. Churchill. 1887. 8vo. Pp. 96.

THE germ of this *brochure* was a lecture on "Hay Fever," delivered at the London Hospital Medical College in 1884. Within three years four editions of the work have been called for—a sufficient proof of its popularity and usefulness.

The present, or fourth, edition brings our knowledge of the strange affection known as "Hay Fever," "Summer Catarrh,"

"Pollen Catarrh," or "Coryza vaso-motoria periodica" (J. H. Mackenzie), down to the present date. It includes an account of a series of experiments made by the author in 1885 to determine the relative quantity of pollen floating free in the air on each day throughout the hay fever season, and the atmospheric conditions influencing the amount. Dr. Morell Mackenzie points out also that owing to the introduction of cocaïn he is able to speak much more hopefully about the treatment of this troublesome affection than when his work first appeared. "It is not only a remedy in itself, but it enables us in some cases to use various curative measures of a surgical, or at least mechanical, character."

To the third edition an appendix on "Rose Cold" had been added, and now the value of the book is further enhanced by the addition of an essay on "Paroxysmal Sneezing," which is interesting both as a classical study and as a practical thesis. We are told that "*men* who suffer from severe paroxysmal sneezing can cure themselves by *taking snuff*." We owe a debt of gratitude to Dr. Mackenzie for limiting the applicability of this remedy to the sterner sex—the victims of the malady or habit among the fair sex may take heart of grace, however, when they learn that "smelling strong ammonia salts often checks the attack."

Apart from some "book-making," we can speak favourably of the work, which is pleasantly written and well brought out.

Anatomy: Descriptive and Surgical. By Henry Gray, F.R.S. Eleventh Edition. Edited by T. Pickering Pick. London: Longmans, Green, & Co. 1887. 8vo. Pp. 970.

[*Third and Concluding Notice.*]

In the section of SPLANCHNOLOGY we have noticed a good deal of careless description and looseness of language. The relative positions of the thoracic and abdominal viscera are matters of extreme practical importance to the physician, and it is singular to see how poorly this portion of human anatomy is treated in our ordinary text-books. The description of the various regions of the abdominal cavity and of the mediastinal spaces in the thorax have in some respects been improved from that of the former editions, but it still leaves a good deal to be desired. The colouring of the illustrations will be a great help to the junior student in understanding the position of organs, and in fixing it on his (or her) memory.

Decided improvements have been made in the descriptions of

the minute anatomy of the viscera, and a number of new illustrations bring this portion of the editor's task fairly well up to date.

The section which deals with the anatomy of the male genito-urinary organs and perinæum might be re-written with advantage. Sir C. Bell's "*muscles of the ureters*" are noticed. Guthrie's view of another possible action is not referred to. Brodie's and Guthrie's "*bars*" are not recognised, although the reality of their individual entities is certainly not less distinct than is that of the existence of Pettigrew's figure-of-8 loops. Ellis's submucous stratum of muscular fibre is also passed over. The *uvula pylorica* of Amussat is neither described nor mentioned—this omission from recent text-books, coupled, we may suppose, with the similarity of sound, has led some modern "Professors," who have neither time nor inclination to make themselves acquainted with the literature of their subject, to transfer the name to the pyloric region of the stomach, with the anatomy of which M. Amussat never particularly troubled himself.

The anatomy of the eye and ear is gone into with a fair degree of minuteness, representing a stage half-way between the descriptions of popular scientific text-books and the labyrinthine details of the volumes of Henle and Stricker. It requires a good deal of skill to strike a fair average in such a case.

The surgical anatomy of hernia, especially of inguinal hernia, might have, in a work of the size and pretensions of the present volume, been dealt with in more careful detail.

In a note the editor recognises the existence of *two* peritoneal fossæ in the inguinal region. In a second note he informs his readers that, "in all cases of inguinal hernia, whether oblique or direct, it is proper to divide the strictures directly upwards. The reason of this is obvious; for by cutting in this direction the incision is made parallel to the epigastric artery." It is hard to say whether the facts of anatomy, the rules of logic, or the purity of the Queen's English has been made the subject of most flagrant violation in this clause.

The cribriform fascia "adheres closely," we are told, "both to the superficial fascia and the fascia lata," and is here regarded as "belonging to the superficial fascia." Those who have carefully dissected it for themselves will remember that the cribriform fascia is intimately adherent to the iliac portion of the fascia lata at the outer border of the saphenous opening, and passes more directly into the superficial fascia on the inner side.

We do not understand the apparently complex puzzle into which

the editor has fallen on the subject of Hey's and Burns's ligaments. We would suggest that when preparing a new edition he would refer to the original descriptions of Hey and Burns, and be less influenced by the commentaries of Gay, Callender, &c. The former distinguished surgeons and anatomists will be found perfectly lucid in their ideas, and in their mode of expressing them; and the reader might then be spared such ridiculous suggestions as "that the 'deep crural arch' was the structure which Hey had in view." The hopeless muddle into which Mr. Callender would drive his readers on the subjects of "deep crural arch," "subperitoneal fascia," "falciform process," "femoral ligament," "Burns's and Hey's ligament," should be mentioned only to be shunned as an ideal specimen of the style which the descriptive anatomist ought carefully to avoid.

The surgical anatomy of the perinæal region displays similar imperfections. The "*deep layer of superficial fascia*," familiarly known to Dublin anatomists as "Colles's middle perinæal fascia," may be regarded, as it was indeed by Colles himself, as a process of the fascia lata crossing the perinæum. No notice is taken of the important fact that this fascia transmits from its deep surface an intermuscular system on either side, between the accelerator urinæ and the erector penis on each side, which, with the posterior continuity of its structure with that of the base of the triangular ligament, sharply limits the course of extravasated urine, or the outline of a perinæal abscess—preventing both latent and backward expansion.

Before closing our criticism of the new edition of "Gray's Anatomy" we would say—to encourage the editor in his future duties—that although there are numerous sins, both of omission and commission, which have not yet been wiped from the pages of this familiar text-book, yet the plan of the book is so good that we take a warm interest in its future purification. Its clearly-printed pages and its very complete and (upon the whole) very admirable series of illustrations will continue to make it very attractive to the student of anatomy. Added to these are the facts that it comprehends but a single volume, and that a really good English text-book of human anatomy has yet to be written—we shall, therefore, be surprised if it does not continue to retain its hold on the favour of our various schools both here and in London.

In the next edition we hope to find sundry small errors in the osteological section corrected, arterial relations more fully described, the section which deals with the venous system entirely re-written and largely expanded, and that portion of the work which is now

relegated to the department of surgical anatomy—in which we would include the physiological anatomy and mechanism of joints—thoroughly recast and entirely revivified. With such changes, well carried out, we should cordially welcome the appearance of the next edition of our old friend "GRAY."

Elementary Microscopical Technology: a Manual for Students of Microscopy. In Three Parts. Part I. The Technical History of a Slide, from the Crude Materials to the Finished Mount. By FRANK L. JAMES, Ph.D., M.A. St. Louis, Mo. 1887. Pp. 107.

IN the preparation of this manual the author aims at an ideal "in which nothing should be taken for granted, no previous acquaintance, on the part of the student, with the subject-matter presupposed, and in which each step of the work, each process and manipulation should be explained in orderly sequence." The work is purely technical, and enters into no considerations of the structures or biological relations of the parts examined; but as a technical work it seems to us to give a fair and tolerably complete account of all the more useful histological methods as they are practised at present, and as such we can recommend it to those who are interested in the purely manual part of microscopy. When the remaining parts are published we hope to have the opportunity of again noticing this book.

A Course of Elementary Practical Histology. By WILLIAM FEARNLEY. London: Macmillan. 1887. Pp. 363.

THIS work is divided into two parts. In the first we find an account of the methods of performing the different operations to which tissues and organs are submitted in the course of their preparation for microscopical examination. In the opening chapter on the microscope is given, among other things, Albi's diffractive theory of the formation of microscopical images. In the other chapters the methods of tracing, irrigating, heating, injecting, staining, cutting, and mounting are explained. The work seems to us to be chiefly characterised by a most unnecessary prolixity in description and operoseness in the methods recommended. As an example of this we would notice the practical exercises on p. 150, where the student is directed to commence by fastening one hundred cover-glasses on as many slips without enclosing any

objects, but merely for the practice of cleaning and handling the glasses. The other exercises in this chapter are very similar in character, and some of the statements seem to us quite inaccurate. For instance, the statement that rats suffer in health if they are given water to drink is, in our opinion, absolutely false.

In the second part of the book the operoseness of which we complained reaches its maximum. This part, occupying 150 pages, is divided into chapters. Each chapter consists of two parts. The first gives the names of the preparations to be made, the second the names of parts in these preparations, with spaces into which the definition or description of the parts is to be written, after having been previously written on waste paper. In fact, the whole is to be a catalogue of preparations. As an example, taken at random, we will reproduce the entire chapters on nerve fibres. On pages 256–259 we find the following, each sentence being separated from the next by a large space.

Page 256 :—

"1. *Horse.*—Transverse and longitudinal section of metacarpal nerve.

"2. *Horse.*—Teased fragment after treatment by osmic acid.

"3. *Mouse*—Short lengths of one of the lateral cutaneous branches of the intercostal nerve."

Page 257 :—

"4. *Frog.*—Sciatic nerve, fresh, examined in salt solution.

"5. *Frog.*—Sciatic nerve treated with osmic acid.

"*Definition of Terms.*

"Axis cylinder.

"Lautermann's notches."

Page 258 :—

"Medullated.

"Medullary sheath.

"Myeline.

"Neurilemma."

Page 259 :—

"Ranvier's constrictions.

"Ranvier's internodes.

"Sheath of Manthun.

"Sheath of Schwann.

"White substance of Schwann."

It is easy to see how in this way a goodly volume may be written with little trouble to the author.

PART III.

HALF-YEARLY REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.[a]

By Ringrose Atkins, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

I. INSANITY IN GENERAL.

The Insane in Japan.—The transition of the Empire of Japan from a stationary to a rapidly progressive condition, is undoubtedly the marvel of this age. It is all the more wonderful because in many respects Japan, as Commodore Perry found it a third of a century ago, enjoyed an advanced civilisation. In some of the arts the Japanese are still in advance of western nations, and in possibilities of development they are not excelled by any. Within the memory of men not beyond middle age, Japan has become, from a rigidly despotic and exclusive country, one of the most liberal in government and laws, and the exemplar of civil and social progress in the eastern world. The old dual empire has melted away, and without any of those violent convulsions which usually attend such changes. The organisation of the government, while it has not given the masses the enlargement we deem necessary to pave the way to perfect freedom, has given them all the freedom they are prepared to enjoy. Meantime, the Japanese ruling class has not been too proud and opinionated to avail itself of all the advantages of a higher civilisation. Its schools and high institutions of learning are overcoming the indifferentism which is nearly the last state of ignorance, and a genuine love for science is developing very rapidly among all classes. The true gauge is the moral gauge, and the gauge of morals is determined by the beneficent institutions a people may establish. Of all the arts and sciences none were found more depressed than that of healing. Disease was deemed some-

[a] The author of this Report, desirous that no contribution to the subject of Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

thing to be exorcised by incantations in old Japan, and the sciences of anatomy and physiology were comparatively unknown. But that condition no longer exists. Intelligent men have entered the colleges of the western world, and there pursued their studies with a most surprising success. The result is already making itself manifest in the establishment of public hospitals and dispensaries in the larger cities. There are in Japan at this time not less than four public hospitals for the treatment of the insane—one each at Kioto and Osaka, and two at Tokio. The report of the hospital at Kioto, after three years of operation, is full of interest. In all 2,213 patients have been received and treated, though not with favourable results as compared with similar institutions in this country. The movement of patients has been very rapid, the treatment extending over only two or three months. The recoveries have been therefore infrequent, while the mortality has been about twelve per cent. of the average number treated. This is rather more than double the mortality in our hospitals. This is somewhat due to the lack of means for artificial feeding of patients who refuse food, exhaustion and death being common from that cause. The disparity between the sexes admitted is remarkable, the number of males being double that of females. This is accounted for by the quiet lives led by the Japanese women, and their freedom from the vexing worries which the American women encounter. The hospital statistics of this country (United States) show a very nearly equal division of cases by sex, but there is a slight preponderance of females. The classification of cases in the Kioto hospital corresponds almost exactly to that in use here. Every type is represented, but in the assignment of causes only eight per cent. are assigned to heredity. This is probably too low an estimate, and is probably due to the difficulty of obtaining information touching the antecedents of patients. The number of chronic cases is estimated at forty per cent. of the whole—an estimate which hardly corresponds with hospital statistics in this country.—(Dr. Chapin in *The North American*, quoted in *Am. Journ. of Insanity*).

The Relationship of Marriages of Consanguinity to Mental Unsoundness.—In a paper read before the British Medical Association, Dr. Shuttleworth, of the Royal Albert Asylum, Lancaster, supports Dr. Mitchell's observations upon the subject of consanguineous marriages in Scotland, that under favourable conditions of life the apparent ill-effects of consanguineous marriages were frequently

almost *nil*, whilst if the children were ill-fed, badly housed and clothed, the evil might become very marked, and concludes in the following words:—"On the whole, in these latter ages of the world's history, where so few families can show a lineage physiologically faultless, a *caveat* may be almost always entered against the marriage of cousins. At the same time, if a close scrutiny does not reveal any heritable weakness, neurotic or otherwise, I do not know that the facts and figures I have cited will justify us in invariably forbidding the banns.—(*Journ. Ment. Science*).

The Sphygmograph on Asylum Patients.—The following are the conclusions drawn by Dr. T. Duncan Greenlees from a careful series of observations made by him, and published in the *Journ. Ment. Science* for January last:—

(1) In the various forms of insanity the influence of the nervous system upon the heart and circulation is such that *in nearly every case the sphygmographic character of the pulse is altered in some way from the normal.* (2) In acute mania and in other forms of insanity associated with mental excitement the nerve centres are congested, but the walls of the arteries being in a lax condition, there is lowered arterial tension, and the pulse in the tracing is dicrotic. As the case becomes chronic the pulse more or less resumes its usual characters. (3) Mental depression, if recent and acute, produces a feeble cardiac systole and an imperfect filling of the arteries. If, however, the depression is long continued, or if it is accompanied by mental hebetude or stupor, the systole becomes stronger, and the tracing indicates slight arterial tension. (4) The arteries of epileptics are lax, and low arterial tension is the rule. During the "status epilepticus" and during the unconscious stage of an epileptic fit, the ordinary characters of the pulse tracing are lost, and it becomes monocrotic or dicrotic, and the pulse becomes "soft, frequent, small, and running," similar to that found in coma or collapse from any acute disease. (5) In general paralysis the pulse varies according to the stage of the disease—(*a*) In the first stage the systole is strong but sudden, the tension of the arteries is low, and the descent line is marked with numerous undulations, probably the result of muscular tremors. (*b*) In the second stage the percussion impulse is moderately strong, and the apex presents either a rounded summit or else it is prolonged, indicating marked arterial tension. (*c*) In the last stage the ventricular systole is feeble, and the pulse tracing resembles somewhat that found in the first stage. (6) The pulse tracing of dementia indicates a feeble cardiac action

and a torpid circulation, from imperfect distension of the vessels, probably due to the slow evolution of nerve impulses along the vaso-motor system. (7) Cases of congenital mental defect, where it is inferred there is an arrest in the development of the encephalon, as well as cases where it is evident a certain amount of wasting or atrophy of the brain tissue exists, have tense arteries and, as a rule, a strong cardiac systole—a condition in many respects similar to that found in fibroid degeneration of the kidneys and in advanced aortic obstructive disease.

Recovery from Insanity after Hæmatoma Auris.—Dr. MacDonald, of the Asylum for Insane Criminals, Auburn, N.Y., reports in the February number of the *Journal of Nervous and Mental Disease* a case of recovery from a second attack of acute mania after the development of hæmatoma of both ears. The patient was eighteen years of age, and at the time of his second admission was markedly maniacal, violent, and filthy. In about two months thereafter he began to develop double hæmatoma, which increased rapidly, and was apparently painless. In each case the swelling was confined to the concha, giving a very peculiar appearance. Absorption was rapid, and at the end of a month the tumours had nearly disappeared, leaving the usual induration and thickening. At the same time the mental disturbance had gradually subsided, and convalescence was fairly established. The patient was returned to the prison after his recovery, and was seen by Dr. MacDonald from time to time until the expiration of his sentence, nearly three years afterwards. Dr. MacDonald quotes three other cases where recovery ensued, published by Dr. Van Deusen. Two of these had occurred in England, and the third in America. In the April number of the *Journal* Dr. MacDonald, in a letter to the editor, states, that in addition to the above, his attention has been called by Dr. William Noyes, Assistant Physician at the Bloomingdale Asylum, to two similar cases that were reported by Dr. Brown, of that institution, in the *Med. Rec.*, June 19, 1886.

Spitzka on Self-abuse in Relation to Insanity.—At a meeting of the New York Neurological Association held last December, Dr. E. C. Spitzka read a paper on this subject. After citing the views of the classical writers, the author stated that the question of the existence of a special form of insanity, due to self-abuse and nothing else, was complicated by the existence of another well-demarcated affection known as the insanity of pubescence. The mental diseases due to self-abuse usually occurred at the same period of life as the latter

disorder. This fact explained the similarity of many clinical features between them. The question was further complicated by the fact that hebephreniacs (sufferers from pubescent insanity) are often addicted to self-abuse, and that thus the features of one disorder may be engrafted upon the other. The Continental authorities do not recognise a special form of masturbational insanity in their tables. Schüle, it is true, speaks of *onanistic insanity* in the sense in which Maudesley uses that term, but he assigns no part to it in his classification, and disposes of it in a few lines. Kraft-Ebing recognises the vice as an ætiological factor, and speaks of such and such forms of insanity on a masturbational basis. He, as well as Schüle, with the majority of recent German writers, follows Ellinger in attributing to the *masturbatory neurosis* a relation to the development of insanity analogous to hereditary and other admitted predisposing and determining factors. I have yet to find any dissent expressed by these authorities from the position taken up by Emminghaus, who claims that, owing to its causal relationship to widely different forms of insanity, it is not proper to speak, as Skae does, of a special form due to masturbation. This critical remark would seem to be supported not only by the clinical facts accessible to every observer, but also by the confusion existing amongst those writers who have attempted to define and demarcate such an affection. Skae speaks of a peculiar imbecility and shy habits as characterising the disorder amongst the youthful; and suspicion and fear and scared looks, palpitation and feeble bodies, as found in older victims, who gradually pass into dementia. The most distinguished follower of Skae attributes the following symptoms to that form of insanity of which masturbation is the chief cause, or "the chief symptom present" giving the whole case distinct features:—Exaggerated self-feeling; conceited, shallow introspection; frothy, emotional religious notions; and a restless, unsettled state, with foolish hatchings of philanthropic schemes. Luther Bell, who, with Isaac Ray, was amongst the earliest to attribute special symptoms to insanity caused by masturbation, furnishes a very faithful picture of certain cases, whose particular feature he describes as being a tendency to dementia, a loss of self-respect, a sulky, mischievous, and dangerous disposition, and a subjectively irritable and depressed state of mind. Griesinger, who does not recognise a special form, and denies specific characters, admits that the majority of cases are marked by a profound dulness of sentiment and mental exhaustion, by religious delusions and

hallucinations of hearing, and a rapid transition to dementia in the event of incurability, which latter is the usual issue.

The effect of masturbation on the mind and nervous system varies according to the age at which it is commenced. Like other agents which are injurious to the developing brain, such as epilepsy, alcohol, and syphilis, its effects are more rapid and serious in young children, less so in adolescents, and least marked in adults, unless protracted. For very young infants it causes a profound deterioration, manifesting itself in convulsive choreic disorder and imbecility. In those who masturbate between the fifth and tenth years, the effects seem to be manifested chiefly in arrested brain nutrition. Spontaneity of thought and action is absent with such children; they do not play as their comrades do. There are a number of other circumstances which modify the development of mental disturbance in masturbators. The age between twenty and thirty-five is pre-eminently the period of somatic introspection. It is at this period, if at any, that the average man begins to think about his bodily condition. In these years men weigh themselves, discover that they have too much or too little flesh, develop slight gastric or intestinal disorders, reflex nervous symptoms, or indulge to excess in tobacco, in baccho, and in venere, and consequently are on the *qui vive* for the occurrence of cardiac, renal, or venereal disease, or of sexual disability. It is at this period that the results of masturbation are most deeply felt by a large proportion of the victims of that habit. The prevalent tendency of his age, and of his associates of the same age, carries him into veritable nosomania. Perhaps also, under lay or medical advice, he attempts to accomplish coitus and fails. It is for this reason that we find the larger portion of cases of insanity due to masturbation developing between the twenty-fifth and thirty-fifth year classified as "hypochondriacal paranoia." A number of typical histories were then related (many of which have been since published in the *Journ. Ment. Science*), from which the author drew the following conclusions:—(1) Self-abuse is an ætiological factor in a large number of cases of insanity, but only those cases should be designated as insanity of masturbation in which the connection between the excesses and the symptoms is direct. (2) Self-abuse to produce insanity must have been carried very far, or the subject must be predisposed. Often onanism can be traced in other members of the family, and very often it is found that the maternal ancestry is a weak one. (3) Mania, melancholia, and epilepsy occasionally occur in young masturbators, the former

two having usually a favourable prognosis. (4) Stuporous insanity and katatonia are both common, and the former presents good prospects. (5) The forms thus far mentioned, when occurring in masturbators, present no essential difference from the typical psychoses; they should therefore be designated as mania, melancholia, stupor, &c., *from* masturbation, and not as masturbational insanity. (6) There is a chronic delusional insanity in grown persons who have been devotees of self-abuse, and it is usually a hypochondriacal *paranoia.* Clinically it is very like typical paranoia, and ætiologically it is not the direct result of self-abuse, but rather of an intermediate neurosis, a cerebro-spinal irritation, which is due to self-abuse. (7) Finally, there is a form of insanity developing about or after the period of puberty which does merit the name "masturbational insanity;" it is chronic, has a tendency to agitated dementia, is characterised in its early period by anxiety, timidity, suspicion, fear, and a cowardly, mean disposition. Later there are confusion, meddlesome, aggressive behaviour, vague delusions, loss of memory, and deterioration. After these are observed spells of fury and destructiveness. This form is never due to any other cause, and resembles no other form of insanity than the one already alluded to. (8) It is not always possible to differentiate between the insanity of pubescence and the form described; but where the former disorder is uncomplicated by the latter, it may be known by a history of peculiarities in infancy and childhood by the greater constancy of the mental state which in onanists is very variable. Hebephreniacs are more apt to be expansive in their notions, more inclined to favour projects of a chimerical character. In other words, insanity of pubescence is the paranoia of adolescence, and masturbational insanity the pre-senile dementia of the same period of life.

II. NEURO-ANATOMY AND PHYSIOLOGY.

The Course of Fibres in the Posterior Horn of the Human Spinal Cord and the Relation of the Lesion of Tabes to it. By Heinrich Lissauer (*Arch. für Psych.*, xvii., 377).—1. The normal posterior horn receives two classes of fibres, large and small, which are easily distinguished from each other, though the actual diameter of the fibres varies considerably in each class. The posterior horn can be separated into a number of regions—first, the region of the entrance of the posterior root; second, the region of the substantia gelatinosa Rolandi; and third, the region of the substantia spongiosa. (1) The

region of the entrance of the posterior root is seen to contain bundles of nerve fibres running vertically through the cord, parallel to bundles in the posterior and lateral columns, and forming a sort of annectant column between these two, since it is not separated from them by any special septa. It is distinguishable from these columns, however, by the fact that it contains fine fibres only. It is traversed by the posterior nerve roots. This column is named the peripheral zone of the posterior horn. If any large fibres are found in this zone, they are on its edges and really belong to other columns. The bundles of fibres in this zone are often separated from each other by septa of basis substance, which is present in large amount in this region. They are also separated by the posterior nerve roots, though in some specimens the bundles of fine fibres are seen to cross or wind round the nerve roots in their upward course. In the usual description of the posterior nerve root, two divisions of fibres are mentioned, one of which enters directly the posterior horn; the other turns toward the median line and enters the posterior lateral column. There is really a third division, which is made up extensively of fine fibres. These turn upward immediately after entering the cord, and pass into this peripheral zone, which is thus seen to have its origin in the posterior nerve root. The fibres which make up this peripheral zone do not, however, pursue a long course upward. This is proven by the fact that the zone does not become larger as it advances toward the brain. The fibres which make it up terminate in the gelatinous substance, but always at a higher level than that of their entrance. The peripheral zone is therefore formed by small fibres of the posterior nerve root, on their way up to the gelatinous substance.

2. The region of the gelatinous substance shows a peculiar spongy structure on its posterior edge, which must be distinguished from the other part. This consists of a confused mass of fine fibres passing in all directions and mingled together so as to form a thick mesh. Into this mesh three sets of fibres are seen to enter—(*a*) from the peripheral zone, (*b*) from the posterior nerve roots, and (*c*) from the posterior column. From this mesh many fibres pass forward into the deeper gelatinous substance. What the relationship is between the fibres entering and leaving this region is doubtful. It is possible that here the fine fibres terminate; if so, this region equals the central gray matter in importance. It is possible that the fibres simply traverse this region to end elsewhere. It is also possible that an independent set of fibres exists here not directly

related to the roots—a hypothesis which seems to be supported by the fact that in tabes there is here a region unaffected by the degeneration of the posterior root zone. The typical gelatinous substance lies in front of this spongy zone. It is made up of a coarse mesh of fibres, both large and small. The large fibres pass in bundles from the posterior roots, either directly forward or in large curves to the deep region of the posterior horn. The small fibres, on the contrary, come chiefly from the spongy zone; a few, however, curve through the posterior root zone and thus reach the gelatinous substance. The majority of fibres in the gelatinous substance pass directly forward horizontally, but some pass in other directions, so that the mesh is very thick. Fibres may often be seen passing from the gelatinous substance into the lateral columns; but the fact that these never degenerate in tabes proves that they are not continuous with the posterior nerve roots. Compact longitudinal bundles in the gelatinous substance, when found, are simply aberrant bundles of the lateral or posterior columns.

3. The region of the substantia spongiosa lies between the gelatinous substance and the posterior gray horn. Its basis substance is a mesh of very fine fibres. It is to be noticed that in this can be distinguished a posterior and an anterior division, separated by fine fibres which pass longitudinally through the region. Into this region pass many fibres from the posterior roots, which turn upward in their course and are known as the longitudinal bundles of the posterior horn. Bundles of fibres are also seen to pass forward, and into the anterior horn of the cord, and into the anterior commissure. Lastly, in the basal part of the posterior horn, in a fine mesh of fibres, are seen the bundles entering from the posterior lateral column and from the lateral column, which pass toward the anterior and posterior commissures.

These details of structure have been discovered by the aid of Weigert's new method of staining. The same method was applied to the study of tabetic cords. It was found that the peripheral zone of fine fibres was always sclerotic in tabes, though not always among the first portions affected. The zone was shrunken, and its outline was very definitely distinguished from the lateral columns. In some cases in an early stage it was distinguishable from the posterior column, being the part chiefly affected. This seems to warrant the conclusion of the author that it is to be regarded as a distinct column. Any constant relation between its sclerosis and the appearance of any definite symptom was not determined.

Attention is also called to the changes in the substantia spongiosa in tabes. It was found that in tabes many of the finer fibres in the meshwork of the posterior part of this region were degenerated so as not to be visible by Weigert's stain. This result, however, is not new, since it is well known that this part of the posterior horn and its plexus of fibres are affected in this disease. The larger root fibres which pass directly into the horn are affected late in tabes, and the progress of their sclerosis is slow. The root fibres which curve through the posterior lateral column degenerate at the same time as this column, and they are affected earlier than the meshwork of the substantia spongiosa, into which they pass. Changes in the vesicular column of Clarke are constant, and appear early in the disease. The cells are not affected, but the plexus of fine fibres in which they lie show marked evidence of degeneration, and finally disappear. The fibres entering the column from the posterior roots also degenerate. The author emphasises the fact that the lesion in tabes is not simply a sclerosis of the posterior root zone, but that it is a complex lesion, involving in different degrees the large and the small fibres of the posterior roots and also the plexus in the posterior horn and in the Clarke column. It is too early to assign to each of these its *rôle* in the production of the symptoms of tabes, but such a careful study of pathological facts as is here presented cannot but lead in the end to this result.—(*Am. Jour. Nerv. and Ment. Dis.*)

Gowers' Tract in the Spinal Cord.—In 1880, Gowers figured a preparation taken from the dorsal region of the cord in a case in which the lower extremity of the cord had been crushed. The preparation was figured to show that besides the ascending degeneration in the posterior columns an area of ascending degeneration existed in each lateral column, just in front of the region of the crossed pyramidal tract. This ascending lateral degeneration gave in cross section an area shaped like an inverted comma, the tail of the comma occupying the periphery of the antero-lateral column in front of the direct cerebellar tract, the head occupying part of Flechsig's "mixed area of the lateral column." In this case the injury to the cord had been too low down to implicate the direct cerebellar tracts. Recalling Woroschiloff's experimental and his own clinical observations, Gowers concluded that the tract in question subserved cutaneous sensory impulses. In confirmation of the distinct existence of this tract, Prof. Bechterew has recently found in the columns a tract of fibres developing apart from the

rest of the mixed zone, and corresponding to a portion of the tract demonstrated by the ascending degeneration of Gowers. The portion thus confirmed is that bounding the direct cerebellar tract. The developmental method confirms completely and in its entirety this tract described by Gowers. The middle of the eighth month of intra-uterine life is the epoch at which to look in the human offspring for such evidence. The developing spinal cord then shows the tract precisely as delimited by Dr. Gowers. At that period there are three tracts of which the nerve fibres have not yet received their medullary sheaths. They are—the pyramidal, crossed and direct; the tract of Lissauer, adjoining the posterior cornua; and the comma-shaped antero-lateral tract. Of these three tracts Lissauer's is the first to become medullated; the pyramidal, crossed and uncrossed, the last. The comma-shaped antero-lateral has an intermediate date. But although the fibres of the comma-shaped tract may be spoken of as roughly all becoming medullated at the same epoch, that is not strictly true. The more anterior (ventral) lying fibres acquire the medullary sheath earlier than do the more posterior (dorsal); also those nearest the crossed pyramidal tract acquire it earlier than do those at the margin of the lateral column. The fibres latest to develop are those at the margin of the lateral column, just in front of the direct cerebellar tract. The tract is not marked off from the cerebellar by a sharp line, but groups of its fibres lie islanded within the more anterior (ventral) portion of the latter. Stated briefly, the anatomy of this ascending antero-lateral tract is as follows:—In position it stretches throughout the lumbar, dorsal, and cervical regions, occupying in cross section a comma-shaped area, the head lying in the lateral columns, touching the ventral edge of the pyramidal tract, the tail extending along the edge of the antero-lateral column from the cerebellar tract behind to the anterior median fissure in front. At the top of the cervical region, where the cerebellar tract comes to lie more anteriorly (ventrally), and the crossed pyramidal tract reaches the margin of the lateral column behind the cerebellar, the comma tract, besides occupying the same area as it does at lower levels, stretches as a thin band between the cerebellar and pyramidal tracts—(Mr. Sherrington, in *Brain*.) In the same paper Mr. Sherrington states that from his own observations he finds distinct developmental confirmation of Lissauer's tract (*vide ante*) both in man and in the dog. About the middle of the eighth month of intra-uterine life in man and in the new-born puppy a tract of fine fibres, wedged in between the

lateral and posterior columns, begins to become medullate. By the ninth month these fibres are fully medullate. Until they are medullated very few medullated fibres are to be found in the substantia gelatinosa of the posterior horns—a fact which confirms Lissauer's view of the identity in part of the two sets of fibres. The amount of substantia gelatinosa and the size of the area occupied between the posterior and lateral columns by the small fibre tract appear to him roughly proportional also; where one is large so also is the other, and *vice versâ*. Lissauer's tract of fine fibres is easily seen in the crocodile's cord, and Dr. Gaskell has pointed out to Mr. Sherrington that in that animal the periphery of the whole of the posterior column is occupied by a zone of similar fine fibres.

On Localisation of Function in the Brain. By Dr. Von Gudden (*Biolog. Centralbl.*, 18 and 19, 1886).—Dr. Gudden approached the problem from the anatomical side. His object was to trace from the periphery towards the centre the distribution of the nerve fibres. If the physiologist, taking away different parts of the cortex to observe the result, does not know the distribution of the fibre systems in the cerebrum, he is certain to fall into error. Phenomena due to secondary injury of the underlying fibres will be ascribed to the cortex. In short, physiology must have its verdict corroborated by anatomy before the final judgment can be given. Any result drawn from the physiological study of the brain must be abandoned if it is contradictory to any well-established anatomical fact. If you destroy the eye of a young rabbit, the opposite optic tract, as far as it is developed, will atrophy, with the exception of the uncrossed bundle of fibres. This in the rabbit is so insignificant that an animal possessing it alone in one eye is blind in that eye. Following the atrophy of the optic tract will be that of the primary subcortical centres, the external geniculate body (the centre for the pupillary reactions), and the upper layer of the anterior corpus quadrigeminum (the visual centre). From here, by means of the connecting fibres, the secondary cortical centre of vision should degenerate; but no difference, except that due to the shifting caused by the atrophy of the anterior corpus quadrigeminum, can be noticed in the cortex. Microscopic examination reveals no difference in the size or number of the cells, and simply shows that the part above the atrophied anterior corpus quadrigeminum, having more room to develop, has developed more. The effect of extirpating both eyes is practically to duplicate these

appearances on the other side. Sections of the other sensory nerves promise equally definite results. Special attention is given to the atrophy of the olfactory nerves. The glomerulus layer of the olfactory bulb is the primary smell centre, and the rest of the bulb is cerebral. Proof of this will be given elsewhere. Part of the anterior commissure serves exclusively to connect the olfactory lobes. The importance of the olfactory nerve consists in the fact that the manner of its connection of its centre with the cortex is clear. If you destroy the olfactory membrane of one nostril of a young rabbit you will cause the atrophy of the glomerulus layer of the bulb; or, better, if you separate by the insertion of a fine knife within the cranium the olfactory nerve from the lobe, and allow the animal to grow up, you will find (1) a line of loose connective tissue at the point of section (reunion of nervous tissue does not occur within the brain); (2) the olfactory tract gone; (3) the olfactory lobe to all appearances normal.[a] This fact of the preservation of the lobe when separated from its nerve, Dr. Gudden, remembering that comparative anatomy showed that the development of the lobe was proportional to the size of the nerve, explained as due to the connection with the opposite olfactory lobe through the anterior commissure. This view had to be abandoned when he succeeded in separating both bulbs from their lobes, and yet found practically no alteration in the lobes. Upon the interdependence of the development of the olfactory nerve bulb and lobe, on the one hand, and on the (nearly) normal development of the lobe in separation from its tract and atrophy of the bulb, on the other hand, Dr. Gudden bases his view of the localisation of function in the brain. The same is true of motor nerves. The facialis hypoglossus, &c., can be cut without causing a degeneration in the cortex. If the entire hemisphere of the brain of a young rabbit, including the corpus striatum, but not the optic thalamus, be removed, and the animal allowed to grow up, no difference in the sight, hearing, or feeling of such animal is noticed. They behave perfectly normally, and show no difference in the sensibility of the two sides. No anatomical basis for the unilateral control of the brain is as yet found. The main point to be noticed is that the sight centre (upper layer of the corpus quadrigeminum) was in no way altered, and the optic tracts and nerves were alike on both sides. Dr. Gudden succeeded in destroying the left parietal and

[a] A microscopic examination showed a slight alteration in the cells in one out of three specimens. It is suggested that this may have been due to a meningitis.

occipital lobe of a four weeks' old kitten without producing hemiopia (though the so-called visual centre in the occipital lobe was destroyed), and, moreover, both optic tracts were equally developed. More remarkable is the following case. The entire occipital and parietal lobes of *both hemispheres* were removed from four young rabbits. They developed apparently like normal animals, and as regards vision, they fled when a hand was waved at them from a great distance, jumped from heights, and avoided obstacles—in short, though without the slightest trace of either visual area, they saw, and interpreted what they saw. In another series of rabbits the frontal lobes of both sides were removed, and yet the animals saw, heard, felt, and moved as normal rabbits. If, however, one makes a deep incision into the brain, and removes much of the matter, many of the rabbits die; and the survivors, though they see, hear, and feel in a rudimentary way, yet show peculiarities, are sleepy, idiotic, puny, weak, &c. As the primary sight centre does not atrophy when the occipital lobe is destroyed, so the subcortical centres of all sensory and motor nerves remain intact when they are separated from the cortex.

If you cut off the olfactory lobe, the glomerulus layer remains intact; only the small part of the tract belonging to the lobe remains, and the commissural fibres of this part are gone.

Passing from these facts, gained with much labour and difficulty, to their interpretation, one must be still more careful. They certainly do not favour the view of exactly localised circumscribed functionally distinct areas; nor does the histological character of the cortex favour such a view. The objection that results derived from the study of the brains of young animals are not entirely applicable to mature brains, is not without weight. But similar facts can be shown in fully-developed animals, although half-grown ones, owing to their greater vitality and smaller liability to secondary atrophies, are preferable. Dr. Gudden has the brains of two full-grown dogs which show no atrophy of the optic tract, though the visual area was destroyed, and no such operation can be used as evidence for making out a certain area to be the sight centre, unless the atrophy of the optic tract (if it occurs) can be shown not to be due to secondary causes. In the motor area the difference between operating on a young and on a mature animal is marked; the former can bear the removal of the frontal area without motor disturbance, while the latter suffers considerably, but even then the effects are not permanent. The anatomical effect is in rabbits a

complete, in cats an incomplete, atrophy of the pyramidal tracts. A dog, both of whose motor areas were removed by Prof. Goltz, was very awkward in its motions, but not paralysed. A series of young rabbits similarly operated on showed very serious motor disturbances, but even here, as the animals grew up, the effects gradually grew less and less. But all these experiments are only in their infancy, and it was the expressed intention of Dr. Gudden not to draw up any but provisional conclusions until more evidence was collected. Dr. Gudden does not believe in exact localisation, but does not oppose all localisation whatever. The anatomical relations on which this position is based are by way of summary—(1.) In the whole mammalian series there is a constant relation between the development of the olfactory lobe and that of the bulb and nerve. One must remember that the rabbit, both of whose olfactory lobes were separated from the bulbs, and yet the lobes developed normally, argues against the olfactory lobes as the exclusive centres of smell. At any rate this suggests a modification of the theory. (2.) Removal of the frontal lobes, and of these alone, causes atrophy of the pyramidal tracts; hence the frontal lobes have a special function. (3.) The dependence of the lemniscus upon the parieto-occipital lobes was first shown by Gudden. (4.) Some of the nuclei of the thalamus are independent of the cortex. (5.) The median posterior ganglion of the mammillary body is also dependent on the parieto-occipital, but not on the frontal. All these facts show is that the division into motor and sensory functions of the cortex is justified. To go on with this study one must cut the subcortical fibres and trace the degeneration in the cortex. For this purpose Dr. Gudden cut (through the foramen opticum) the middle third (pyramidal tract) of the internal capsule. Subsequent examination showed that the attempt was almost entirely successful. The result was a degeneration of large motor cells only in the cortex. This suggests that the different cell layers of the cortex may have different functions. In fine, enough has been said to show that much remains to be done to complete the doctrine of the localisation of function in the brain. *First* anatomy and *then* physiology, was Dr. Gudden's watchword; but if physiology first, then not without anatomy.—(*Am. Journ. Nerv. and Ment. Dis.*)

Brain Weight.—A current medical opinion makes large brains and wisdom concomitant terms, and in corroboration of this view the large brain of Cuvier, the naturalist, weighing sixty-four ounces, is cited. On the other hand, Gambetta's brain weighed only thirty-

four ounces, which is below the alleged normal limit. The explanation of these seemingly contradictory facts is a simple one. Cuvier's brain weight represented not intellect, but a healed up hydrocephalus from which the naturalist suffered in childhood. The especial value of brain weight as a gauge of intellect is shown by the fact that an idiot's brain has weighed sixty-eight ounces (Spitzka, "Somatic Etiology of Insanity"). This enormous weight was due to the increase of the ependyma, or barren layer, as Spitzka has shown. Intellect, hence, depends on brain quality rather than quantity. Brains of Cuvier's size suggest something pathological rather than intellectual. The small size of a brain by no means demonstrates a small intellect.

The Circulation of the Blood of the Ganglionic Cells.—Prof. Albert Adamkiewicz has made a searching examination of the blood supply of the ganglia, his experiments being confined more particularly to the intervertebral ganglia connected with the cords forming the brachial plexus. The vessels supplying these ganglia were injected with carmine through the spinal arteries, with the result of showing that each cell is supplied with blood by means of a separate arterial loop, so disposed as to invest the ganglionic cell, which is thus bathed in the arterial blood, much as the placental tufts are bathed by the blood in the material sinuses. The cell itself, moreover, is said to contain very minute ramifications or passages from the circumference to the centre, through which serum alone can penetrate.

[*To be concluded.*]

HYDROBROMATE OF COCAÏN.

This salt of cocaïn, recently put upon the market in Europe, is a white, amorphous, and inodorous powder, extremely soluble in water, and having a very pleasant taste. Experiments made with it by Dr. Delmis, and communicated to the *Gazette des Hôpitaux*, show that in doses of from one and a half to fifteen grains it is well borne by the weakest stomachs. Indeed, it is in dyspeptic gastralgia that it shows its value most markedly. It has remarkable anodyne and antispasmodic properties not possessed by the hydrochlorate, and has proven very valuable in the treatment of chorea, hysteria, &c.—*St. Louis Medical and Surgical Journal.* [The fact that upwards of fifty cases of cocaïn poisoning have been recorded, in six of which death resulted, will probably control the indiscriminate use of cocaïn. In some of the cases death resulted from two grains of the alkaloid, and we cannot, therefore, approve of fifteen grain doses, unless under very exceptional circumstances.]

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—Robert M'Donnell, M.D., F.R.S.
General Secretary—W. Thomson, M.D.

PATHOLOGICAL SECTION.

President—Walter G. Smith, M.D.
Sectional Secretary—J. B. Story, M.B.

Friday, May 13, 1887.

The President in the Chair.

Malformation of the Shoulder-Joint.

Dr. E. H. Bennett exhibited a specimen of malformation of the shoulder-joint. It was a form of malformation or disease that he had never seen before; and the only way in which he could read it was that it was not congenital, nor the result of a fracture or dislocation, but a condition brought on by the action of a burn, the cicatrices of which existed on the limb and near the joint. The limb belonged to a slender man of middle age. It was dissected in the School of Physic, and had previously attracted attention in consequence of deformities that appeared in the fingers, the result of burn contractions. The little finger was burned towards the ulnar side, and its extremity had been lost; and the finger next it had suffered similarly, but to a lesser degree. The cicatrices were not such as to produce large webs or great deformities, but the end of one finger was completely destroyed, and there were marks upon the limb of burning of the skin. These were the only circumstances that threw light on the question of the cause of the deformity. It was noticed before the dissection was made that the shoulder-joint, although not completely fixed, was limited in its range of motion. There was nothing abnormal in the muscles, except that those of the dorsum scapulæ were

to some extent wasted; all the muscles were, however, otherwise good. The condition of the shoulder-joint was curious. On clearing away the soft parts on the outside of the joint, he found what at first sight appeared to be the head of the humerus directly underneath the muscles, without any capsule, while the upper part of the humerus was distorted and bent. There was no disease of the scapula or glenoid cavity; on the contrary, everything there was normal. The length of fibrous capsule was very small. The appearance, as of a head of the humerus, which the specimen presented, looking at it from the outer side, was fallacious. On turning the specimen it was seen that the head of the humerus was half buried in an ossified capsule; while the remaining half of the capsule was free, soft, and flexible, and received the attachments of the capsular muscles normally on the axillary side. There were no deep cicatrices involving the muscles; and the tendons and joint had been in no way affected except by the skin contraction. It was hard to account for this condition of the capsule and the extraordinary limitation of the ossification of it to the outer side. On the inside the cartilage of the joint was perfectly normal. He had not made any section through it, because he did not think it would reveal much. The head of the bone was greatly distorted in position. He did not think there had been any fracture of the bone, but believed that the flexion of the upper part of the bone and distortion of the head of it had been produced by the limited range of movement resulting from the superficial cicatrices.

The PRESIDENT asked was there not some deformity of the shaft of the bone?

DR. BENNETT.—It is twisted and bent.

DR. HEUSTON said it appeared to him that there was a line of fracture running towards the head on the inner side and proceeding through the epiphysary line.

DR. BENNETT, in reply, said the only fracture which produced a deformity in any way similar was that of an impacted fracture external to the capsule; but he did not know of any other specimen that presented a similar feature as regarded the capsular ligaments. He had thought it better to show the specimen first without making any section; but he would make a section; and if it should reveal anything in the nature of a fracture, the fact could be recorded in the report. It was like the deformity that resulted from chronic inflammation; but there was no evidence here of chronic inflammation beyond the capsular ossification. If a fracture existed it would give additional interest to the specimen; but the remarkable thing was the association of the deformity with the cicatricial destruction on the ulnar border of the hand, and along the forearm; as the marks of the burn—though it was only of the skin—reached as high as the axilla. The deformities must have existed for a great number of years, if not from childhood.

Capillary Transudation.

Mr. Story exhibited an apparatus intended to illustrate an experiment of Körner upon capillary transudation. It had been made by Mr. Yeates, of Grafton-street, and he had to express his thanks to Dr. M'Kee, Sir Charles Cameron, and Dr. Piel for assistance in bringing it before the Section. The experiment of Körner was known to him (Dr. Story) only second-hand through an article on the pathology of glaucoma written by Birnbacher and Czermak in von Graefe's Archives. In glaucoma the increase of tension of the eyeball can be produced only by an increase of the fluid that goes into the eye, or by a diminution of the fluid coming out of the eye, or possibly by the joint operation of both of those causes. Before proceeding to hypothesise as to the production of glaucoma, those two authors thought it necessary to find out what were the physical laws governing the passage of fluids through tubes which, in part of their course, had walls that were permeable to fluids and movable. The blood went into the eye through arteries and came out through veins. Between the arteries and the veins it passed through capillaries which had permeable and distensible walls. By the experiment of Körner—which the apparatus represented—fluid was passed through a tube formed partly of India-rubber and partly of brass, to which two manometers were attached. Another portion of the tube, which was enclosed in a glass cylinder, was formed of a membrane that admitted of filtration—namely, the ileum of a monkey, off which the peritoneal coat had been stripped. When water was allowed to flow freely through the system, a filtration of the fluid took place through the membranous part of the tube into the glass cylinder, which cylinder might be termed the tissue chamber, and the filtration went on steadily until the pressure in this chamber became higher than the pressure on the exit tube, and higher than the pressure in the portion of the membranous tube next to the outflow. He found that no matter what was the pressure applied—whether there was a restricted arterial current or a restricted venous current—in all cases, sooner or later, the pressure in the tissue chamber rose till it became higher than that in this distal portion of the membranous tube, and then this portion of the tube collapsed and all flow ceased. The conclusion which Körner drew from his experiment—the result of which was published in 1873—was that there must be some exit for the fluid from the tissues of the body independent of the venous circulation—namely, the lymph vessels—or the rise of pressure in the tissues would ultimately stop the flow in the veins completely. Birnbacher and Czermak, then, in attempting to produce an arrangement which would permit a constant flow to go on, hit on the expedient of placing within the membranous part of the tube a spiral wire which prevented the membrane from collapsing. When this was

set going the proximal (or arterial) end of the tube was seen to be raised up from the wire by the pressure of the contained water, while at the distal (or venous) end of it the membrane was pressed down upon the spiral by the higher pressure in the tissue chamber; and they concluded that a filtration took place from the inside of the membranous tube into the glass cylinder at the proximal end, and that a filtration back again from the chamber into the tube took place at the distal end. The pressure in the tissue chamber became higher when they restricted the "venous" outflow, when they increased the "arterial" pressure, and when they used a more permeable filter at the arterial end, or a less permeable one at the venous end of the membranous tube. There were certain points in the anatomy of the eye which went to make out a strong analogy between the circulation of the blood in that organ and the conditions of this experiment. The blood abstracted from the retinal circulation passed into the eye through fifteen or sixteen ciliary arteries, and nearly all passed out again through the venæ vorticosæ. The venæ vorticosæ, of which there were from four to seven, ran into large sinuses or ampullæ before they made their exit through the sclerotic emissaries. The veins from these ampullæ through the emissaries were much narrower than the ampullæ, and their walls were exceedingly thin. The emissary in the sclerotic had a funnel-shaped opening. The walls of the vein there were not unsupported, but were adherent to the wall of the emissary either directly or by means of fibrous tissue, and were thus protected against compression. The coat of the vein became ten times thicker as soon as it passed through the sclerotic. The result of that anatomical arrangement was that there was a very high pressure on the ampullæ and a sudden and extensive decrease of pressure in the emissary vein. Another reason why the blood pressure on the ampullæ should be high was the unusually large size of the chorioidal capillaries. The pressure in these ampullæ must be nearly as great as the intra-ocular pressure, as there was nothing to prevent them from collapsing. The pressure on the emissary vein must be considerably lower; it could not be very much greater than that in the facial vein (a pressure of 5·2 mm. of mercury has been found in the facial vein of the sheep, while the intra-ocular pressure averages from 30 to 35 mm.), consequently there was every facility for the filtration of the fluid from the eye back into the vein as it left the ampullæ. On the anatomical structure of Schlemms' canal he need not dilate—suffice it to say that the veins there were guarded against compression, and the fluid of the anterior chamber filtered through into those veins. In fact, the veins must be maintained in a permanent condition of dilatation, or else they would not be able—as they were, with dead eyes—to inject those veins from the anterior chamber. Birnbacher and Czermak went further, and injected coloured fluid into the supra-chorioidal space, through which the emissary vein

passed, as it went into the sclerotic; and they found that the coloured fluid came out on the exterior of the globe through the lumen of the vein, and not alongside of the vessel by means of any perivascular space. Their conclusion was that there was a filtering arrangement in the venæ vorticosæ similar to the filtering arrangement in the second apparatus before the Section, in which there was a wire spiral inside the membranous tube to prevent it from collapsing. The best experiments on the effect of the circulation on intra-ocular pressure in the living eye were those of Schultèn, who had found that the intra-ocular pressure varied with the blood-pressure; that it was raised by either an increase of arterial inflow or a diminution of venous outflow; and also that lessened arterial tension raised the pressure. He found that the pressure on the eyeball was lowered if the arterial flow was lessened; and that it was also lowered if the walls of the arteries were put into a state of spasm. The analogy of those observations of Schultèn to those of Birnbacher and Czermak was very perfect. It could be seen in the apparatus that the increased flow at the arterial end raised the pressure not alone in what corresponded to the artery but in the manometer attached to the tissue chamber—both went up together. If the venous outflow were increased the pressure in the tissue chamber diminished; if they diminished the venous outflow the pressure rose, not only in the artery but also in the tissue chamber. There was a very close analogy between the circulation in the eyeball in those respects and the circulation in the brain. The cerebral venous sinuses were defended from collapse by being placed in rigid fibrous channels, which guarded them from the effects of increased intracranial pressure. There were no important lymph paths conducting lymph out of the brain. The cerebro-spinal fluid made its way through such processes as the Pacchionian bodies into the venous circulation. On the special pathological bearings of this experiment he would now touch. It was brought forward by Birnbucher and Czermak at the close of their paper, which stated that they had made a microscopical examination of glaucomatous eyes, and had found that, in addition to the ordinary well-known blocking up of the angle of the anterior chamber by adhesions of the root of the iris to the cornea, the venæ vorticosæ were affected, and that in the emissary veins coming out from the ampullæ there were signs of inflammation, which had thickened the walls of the veins and destroyed the permeability of the space surrounding them; and that there was also an internal inflammation inside the veins, so much so that some of them were completely blocked up by proliferation of the endothelium. The result of the experiment showed that in glaucomatous eyes there was a *vera causa* capable of increasing the intra-ocular pressure, and that that intra-ocular pressure was governed by the physical laws exemplified in the apparatus before them. Whether those arrangements which Birnbacher and Czermak

said existed in the eye to prevent the occurrence of abnormal pressure were those which did prevent its occurrence or not, it was too early to say; but there must be some arrangement similar to what they described to prevent the complete stoppage of the circulation of the blood, having regard to the conditions under which it circulated in the eyeball. There must necessarily be some arrangement to prevent the compressing and collapsing of the veins.

The PRESIDENT said the reasoning founded on this experiment was applicable to the circulation of the blood in other organs besides the eye. He would ask Dr. Story did his ophthalmic brethren consider that this experiment went far towards solving the disputed problem as to the ætiology of glaucoma? Also, he wished to ask what difference did the quality of the fluid make? Experiments made with pure or coloured water would hardly represent conditions *intra-vitam* where a fluid impregnated with saline materials had to be dealt with.

DR. BENNETT said if these experiments gave the true reading of the action of the vessels in producing the aqueous humour, the latter should be more akin to serum in its constitution than the name indicated. If it were the result of such constantly changing pressure as had been described, its condition would be not far from that of albumen.

DR. STORY, in reply, said it was not implied by him, and those from whom he took those observations and experiments, that they represented the whole of the actions that took place, in the interchange of fluids, between capillaries and tissues. To some extent that interchange must be governed by mechanical conditions, such as the amount of pressure inside and outside the filtering wall of the capillaries; and so far as that was the case, the laws represented by these experiments held good. Of course it might make a difference if the fluid was not pure water, but was a saline, diffusible solution. Birnbacher and Czermak stated in their paper that the pressure varied according to the quality of the fluid, as well as according to the quality of the filter. But, as far as he (Dr. Story) had been able to make out, they did not make experiments in that direction. Variations in the quality of the fluid practically did not come in. It was extremely probable that the walls of the capillaries had the power in themselves of altering their power of filtration so as to offer more or less resistance to the passage of the fluid. Contraction in the walls of an artery at once diminished the degree of the pressure in the area of the district supplied by that artery. There were a number of interesting experiments in the paper of Birnbacher and Czermak showing that increase in the pressure was neutralised by contraction of the artery. It was raised by restricting the venous outflow; but if the arterial pressure was subsequently diminished sufficiently to make the pressure of the so-called "artery" in the mechanical apparatus the same as it was at the commencement of the experiment, the pressure in the tissue chamber did

not fall down to what it was at the commencement of the experiments, but remained permanently higher. So that the contraction of the vascular walls must not alone compress the artery sufficiently to make the pressure on it what it was before the vein was constricted, but it must lower the arterial pressure even still below that—in fact, there must be a spasmodic contraction of the coats of the arterioles to keep down the pressure on the tissue to the normal degree. In reply to the question as to what his ophthalmic brethren thought of this experiment, he was afraid that none of them had read it or knew anything about it. The experiment of Körner was published in 1873; but in spite of the vast amount of work that had since been done in connection with glaucoma, no one seemed to have noticed its importance till Birnbacher and Czermak had taken up the subject in their paper in the December (1886) number of von Graefe's Archives.

Fracture of the Skull.

Dr. Heuston exhibited the skull and brain of a gentleman, aged sixty, who had fallen from a window into a flagged area on his head, a distance of twelve feet. After the accident he presented no evidence of serious lesion for five days, when symptoms of cerebral irritation began, eventuating in hemiplegia of the left side of the body on the tenth day, when he died from paralysis of the muscles of respiration. The skull presented a fracture occupying the posterior portion of the right parietal bone, which included a somewhat quadrilateral area, the enclosed portion of bone being further broken into three portions, the uppermost of which was depressed, while the two lower were elevated at their junction. From the posterior inferior angle of this fracture a fissure extended through the masto-occipital and petro-occipital sutures to the jugular foramen, from which a fracture extended into the foramen magnum posterior to the occipital condyle. An extensive clot was also found occupying the position of the fracture, and also filling the posterior fossa of the skull between the dura mater and the bone; the dura mater in this situation presented a laceration an inch in length. The right cerebral hemisphere presented a laceration at the junction of the occipital with the temporo-sphenoidal lobe extending obliquely upwards and backwards for an inch and a quarter, and being half an inch in breadth. The inferior aspect of the right lobe of the cerebellum showed a laceration occupying the biventral lobe half an inch in length.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, July 16, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	June 25.	July 2.	July 9.	July 16.		June 25.	July 2.	July 9.	July 16.
Armagh -	15·5	31·0	15·5	5·2	Limerick -	20·2	16·2	24·3	24·3
Belfast -	23·2	25·3	23·2	24·4	Lisburn -	14·5	14·5	14·5	14·5
Cork -	18·2	16·9	10·4	19·5	Londonderry	17·8	16·0	8·9	21·4
Drogheda	12·7	8·5	16·9	33·8	Lurgan -	15·4	35·9	10·3	15·4
Dublin -	27·0	27·9	25·0	27·0	Newry -	21·1	24·6	10·5	10·5
Dundalk -	34·9	26·2	21·8	30·6	Sligo -	0·0	14·4	14·4	4·8
Galway -	6·7	20·2	30·3	26·9	Waterford -	27·8	18·5	18·5	39·4
Kilkenny	16·9	25·4	12·7	4·2	Wexford -	25·7	8·6	17·1	12·8

In the week ending Saturday, June 25, the mortality in twenty-eight large English towns, including London (in which the rate was 15·9), was equal to an average annual death-rate of 17·6 per 1,000 persons living. In Glasgow the rate was 20·5; and in Edinburgh it was 18·9.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 23·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·9 per 1,000, the rates varying from 0·0 in ten of the districts to 5·2 in Armagh—the 3 deaths from al causes registered in the last-named district comprising 1 from enteric fever. Among the 100 deaths from all causes registered in Belfast are 1 from scarlatina, 4 from whooping-cough, 1 from enteric fever, and 9

from diarrhœa. The 10 deaths in Londonderry comprise 2 from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 163—81 boys and 82 girls—and the deaths to 187—99 males and 88 females.

The deaths represent an annual rate of mortality of 27·6 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000.

Thirty-four deaths from zymotic diseases were registered, being 8 over the average for the corresponding week of the last ten years, but 4 under the number for the week ended June 18: they comprise 21 from measles, 4 from scarlet fever (scarlatina), 1 from whooping-cough, 1 from diphtheria, 1 from diarrhœa, 1 from erysipelas, &c.

Sixty-one cases of measles were admitted to hospital, being 2 over the admissions for the preceding week; 39 measles patients were discharged, 5 died, and 144 remained under treatment on Saturday, being 17 over the number in hospital on Saturday, June 18.

Five cases of scarlatina were admitted to hospital, being a decline of 6 as compared with the admissions for the preceding week; 7 patients were discharged, 2 died, and 36 remained under treatment on Saturday, being 4 under the number in hospital on Saturday, June 18.

Three cases of typhus and 4 of enteric fever were admitted against 3 cases of each disease admitted during the preceding week; 8 cases of typhus and 11 of enteric fever remained under treatment in hospital on Saturday.

Thirty deaths from diseases of the respiratory system were registered, being 2 over the number for the preceding week, and 1 in excess of the average for the 25th week of the last ten years; they comprise 18 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 2, the mortality in twenty-eight large English towns, including London (in which the rate was 16·6), was equal to an average annual death-rate of 18·1 per 1,000 persons living. In Glasgow the rate was 19·8; and in Edinburgh it was 16·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·5 per 1,000, the rates varying from 0·0 in Limerick, Drogheda, Wexford, Dundalk, Sligo, Lisburn, Lurgan, and Armagh, to 4·2 in Kilkenny—the 6 deaths from all causes registered in the last-named district comprise 1 from measles. Among the 109 deaths from all causes registered in Belfast are 1 from typhus, 4 from whooping-cough, 2 from enteric fever, and 7 from diarrhœa. The 26 deaths in Cork

comprise 1 from enteric fever; of the 6 deaths in Galway 1 resulted from typhus; and the 7 in Newry comprise 1 from simple continued fever.

In the Dublin Registration District the births registered during the week amounted to 225—120 boys and 105 girls—and the deaths to 199—102 males and 97 females.

The deaths represent an annual rate of mortality of 29·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·9 per 1,000.

Forty-five deaths from zymotic diseases were registered, being 11 over the number for the preceding week, and 16 over the average for the twenty-sixth week of the last ten years; they comprise 30 from measles (an increase of 9 as compared with the number of deaths from that disease in the preceding week), 1 from typhus, 3 from whooping-cough, 1 from ill-defined fever, 4 from diarrhœa, 1 from dysentery, &c.

Fifty-three cases of measles were admitted to hospital, being 8 under the admissions for the preceding week; 64 measles patients were discharged, 3 died, and 130 remained under treatment on Saturday, being 14 under the number in hospital on Saturday, June 25.

Three cases of scarlatina were admitted to hospital, being 2 under the admissions for the preceding week, and 8 under the number for the week ended June 18; 5 patients were discharged, and 34 remained under treatment on Saturday, being 2 under the number in hospital on Saturday, June 25.

One case of typhus and 3 cases of enteric fever were admitted during the week; 5 cases of the former and 11 of the latter disease remained under treatment in hospital on Saturday.

Thirty deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week and to the average for the 26th week of the last ten years; they comprise 15 from bronchitis, 6 from pneumonia or inflammation of the lungs, and 2 from croup.

In the week ending Saturday, July 9, the mortality in twenty-eight large English towns, including London (in which the rate was 19·9), was equal to an average annual death-rate of 19·6 per 1,000 persons living. In Glasgow the rate was 17·8; and in Edinburgh it was 18·5.

The annual average death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 21·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·4 per 1,000, the rates varying from 0·0 in Limerick, Newry, Kilkenny, Drogheda, Dundalk, Sligo, Lurgan, and Armagh, to 4·8 in Lisburn—the 3 deaths from all causes registered in

the last-named district comprising 1 from diarrhœa. Among the 100 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 2 from typhus, 4 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, and 10 from diarrhœa. The 16 deaths in Cork comprise 1 from typhus; of the 8 deaths in Waterford 2 were caused by typhus. The 5 deaths in Londonderry comprise 1 from enteric fever, and 1 of the 4 in Wexford resulted from typhus.

In the Dublin Registration District the births registered during the week amounted to 173—85 boys and 88 girls—and the deaths to 180—83 males and 97 females.

The deaths represent an annual rate of mortality of 26·6 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 25·0 per 1·000.

Fifty-two deaths from zymotic diseases were registered, being 7 over the number for the preceding week, and 26 in excess of the average for the twenty-seventh week of the last ten years: they comprise 36 from measles (an increase of 6 as compared with the preceding week), 5 from whooping-cough, 1 from diphtheria, 2 from enteric fever, 3 from diarrhœa, &c.

Forty cases of measles were admitted to hospital, being 13 under the admissions for the preceding week, and 21 below the number for the week ended June 25—28 measles patients were discharged during the week, 1 died, and 141 remained under treatment on Saturday, being 11 over the number in hospital at the close of the preceding week.

Eight cases of scarlatina were admitted to hospital, being 5 over the admissions for the preceding week; 6 patients were discharged, and 36 remained under treatment on Saturday, being 2 over the number in hospital on Saturday, July 2.

One case of typhus and 1 of enteric fever were admitted during the week, and there were only 4 cases of the former and 7 of the latter disease in hospital on Saturday.

Twenty-two deaths from diseases of the respiratory system were registered, being equal to the average for the corresponding week of the last ten years, and 8 under the number for the week ended July 2: they consist of 14 from bronchitis, 7 from pneumonia or inflammation of the lungs, and 1 from croup.

In the week ending Saturday, July 16, the mortality in twenty-eight large English towns, including London (in which the rate was 22·0), was equal to an average annual death-rate of 20·7 per 1,000 persons living. In Glasgow the rate was 17·5; and in Edinburgh it was 19·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·3 per 1,000, the rates varying from 0·0 in 10 of the districts to 9·3 in Waterford—the 17 deaths from all causes registered in that district comprising 2 from whooping-cough and 2 from diarrhœa. Among the 105 deaths from all causes registered in Belfast are 2 from measles, 1 from scarlatina, 1 from typhus, 4 from whooping-cough, 1 from enteric fever, and 10 from diarrhœa; and the 8 deaths in Galway comprise 1 from typhus.

In the Dublin Registration District the births registered during the week amounted to 170—92 boys and 78 girls—and the deaths to 189—98 males and 91 females.

The deaths represent an annual rate of mortality of 27·9 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000.

Forty-eight deaths from zymotic diseases were registered, being 25 over the average for the corresponding week of the last ten years, but 4 under the number for the week ended July 9; they comprise 28 from measles (a decline of 8 as compared with the preceding week), 2 from whooping-cough, 1 from ill-defined fever, 2 from enteric fever, 12 from diarrhœa, 1 from erysipelas, &c.

Thirty-nine cases of measles were admitted to hospital during the week, being 1 under the admissions for the preceding week; 61 measles patients were discharged during the week, and 119 remained under treatment on Saturday, being 22 under the number in hospital on Saturday, July 9.

Ten cases of scarlatina were admitted to hospital, being 2 over the admissions for the preceding week; 13 patients were discharged, and 33 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

No cases of typhus were admitted and but 1 case of enteric fever came into hospital during the week; 1 case of the former and 7 cases of the latter disease remained under treatment on Saturday.

Thirty-five deaths from diseases of the respiratory system were registered, being 11 over the average for the corresponding week of the last ten years, and 13 over the number for the week ended July 9; they comprise 19 from bronchitis, 9 from pneumonia or inflammation of the lungs, and 2 from croup.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of July, 1887.

Mean Height of Barometer,	30·008 inches.
Maximal Height of Barometer (on 20th, at 9 a.m.)	30·401 „
Minimal Height of Barometer (on 26th, at 9 p.m.),	29·288 „
Mean Dry-bulb Temperature,	63·4°.
Mean Wet-bulb Temperature,	58·1°.
Mean Dew-point Temperature,	53·7°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·415 inch.
Mean Humidity,	71·4 per cent.
Highest Temperature in Shade (on 7th),	77·0°.
Lowest Temperature in Shade (on 18th),	50·3°.
Lowest Temperature on Grass (Radiation) (on 18th),	42·3°.
Mean Amount of Cloud,	59·5 per cent.
Rainfall (on 13 days),	1·194 inches.
Greatest Daily Rainfall (on 3rd),	·534 inch.
General Directions of Wind,	S.W., W., N.W.

Remarks.

Although not so dry, or settled, or sunny as the previous month had been, July, 1887, was comparable with it in respect of warmth. Atmospherical pressure was two-tenths of an inch lower on the average than in June, and easterly air-currents gave way completely to those from westerly points of the compass—S.W., W., and N.W. Up to the 31st, only ·660 of an inch of rain fell in Dublin, but that small quantity was distributed over as many as 12 days. On the 31st a thunderstorm occurred, accompanied with very heavy rain and hail; no other electrical disturbances were experienced in the city or its vicinity.

In Dublin the mean temperature (63·7°) was much above the average (60·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 63·4°. In the twenty-two years ending with 1886, July was coldest in 1879 (the cold year) (M. T. = 57·2°). It was warmest in 1868 (the "warm year") (M. T. = 63·5°). In 1886, the M. T. was 61·0°. From this, July, 1887, proves to have been the warmest since the present records commenced.

The mean height of the barometer was 30·008 inches, or 0·086 inch above the average value for July—namely, 29·922 inches. The mercury marked 30·401 inches at 9 a.m. of the 20th, and fell to 29·288 inches at 9 p.m. of the 26th. The observed range of atmospherical pressure was, therefore, 1·113 inches—that is, a little more than an inch and one-tenth. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 63·4°, or 1·1° above

the value for June, 1887; that calculated by Kaemtz's formula—viz., *min.* + (*max.* — *min.* × ·41) = *Mean Temp.*—from the means of the daily maxima and minima was 62·4°, or 2·8° above the average mean temperature for July, calculated in the same way, in the twenty years, 1865–84, inclusive (59·6°). The arithmetical mean of the maximal and minimal readings was 63·7°, compared with a twenty years' average of 60·7°. On the 7th the thermometer in the screen rose to 77·0°—wind S.W.; on the 18th the temperature fell to 50·3°—wind N.N.W. The minimum on the grass was 42·3° on the latter date. The rainfall was only 1·194 inches, distributed over 13 days. The average rainfall for July in the twenty years, 1865–84, inclusive, was 2·499 inches, and the average number of rainy days was 17·6. The rainfall and the rainy days, therefore, were again decidedly below the average. In 1880 the rainfall in July was very large—6·087 inches on 24 days; in 1871 also 4·391 inches fell on 28 days. On the other hand, in 1870, only ·539 of an inch was measured on 8 days, in 1869 the fall was only ·739 of an inch on 9 days, and in 1868 only ·741 of an inch fell on but 5 days.

Solar halos appeared on the 14th and 24th. High winds were noted on as many as 14 days, but attained the force of a gale on only one occasion—viz., the 27th. Temperature reached or exceeded 70° in the screen on no fewer than 17 days. There was a storm of thunder, lightning, and heavy hail and rain on the 31st.

The first two days were quiet, warm, and summerlike. Temperature rose to 86° in the screen at Cambridge on Saturday, the 2nd.

During the week from the 3rd to the 9th inclusive there was a gradually increasing tendency to the breaking up of the long period of fine, dry weather which had been experienced in the British Islands and Western Europe generally. The distribution of pressure became cyclonic, and fresh to strong southerly and westerly winds set in, with showery weather, particularly in the W. of Ireland and Scotland.

These changes became stereotyped in the week ending Saturday, the 16th; and rain fell in varying amounts over the whole of the United Kingdom. Throughout the greater part of the period the type of pressure distribution was south-westerly—the barometer being highest over France or Spain, but relatively high over Central Europe and the Baltic. On Wednesday, the 13th, temperature rose to 85° at Cambridge, but the highest reading of the week in Dublin was 73·9°.

The weather experienced in the week ending the 23rd was fine, and, on the whole, very dry over the British Isles, but dull and very rainy over Scandinavia and the southern half of France—in the latter region thunderstorms were of daily occurrence. At the close of the week, showers fell in and about Dublin.

In the period ending Saturday, the 30th, the weather was decidedly broken, and several rather deep cyclonic systems passed by the N.W. of

Ireland and W. of Scotland. One of these disturbances brought a S. to W. gale to the Irish and Scotch coasts on the 26th and 27th, and at exposed stations a considerable quantity of rain fell. The wind moderated on the afternoon of the 29th. On the 30th rain fell heavily at Parsonstown, King's County (·420 inch), and at Greystones, Co. Wicklow (·428 inch). There was no measurable rainfall in Dublin on this day, but on the 31st ·534 inch was measured as the result of a thunderstorm accompanied with drenching showers of rain and large hail. The electrical disturbances of the 31st extended all along the east coast of Ireland and the corresponding coast of England, and were connected with local easterly sea-breezes, coming inland in the face of a prevailing westerly air-current.

The rainfall of the month at Greystones, Co. Wicklow, was 1·730 inches, on 9 days.

PERISCOPE.

THE EMPLOYMENT OF UNQUALIFIED ASSISTANTS DEFINED AS "INFAMOUS CONDUCT" UNDER THE MEDICAL ACT.

THE General Medical Council have passed the following resolution:—"Resolved—That the Council record on its Minutes, for the information of those whom it may concern, that charges of gross misconduct in the employment of unqualified assistants, and charges of dishonest collusion with unqualified practitioners in respect of the signing of medical certificates required for the purposes of any law or lawful contract, are, if brought before the Council, regarded by the Council as charges of infamous conduct under the Medical Act."

ARBUTIN.

ARBUTIN, the glucoside of uvæ ursi, has recently been used by Paschkis (*Wien. med. Presse*), who obtained no good results from it. He prescribed it in several cases of cystitis and gonorrhœa without effect, though he afterwards obtained good results from the use of uvæ ursi itself. Either arbutin is not the active curative principle, at least in the doses employed by Paschkis (30 grains daily), or the preparation he used was not arbutin.—*Medical Chronicle*, March, 1887.

SALICYLATES AND ALKALIES IN ACUTE RHEUMATISM.

SALICYLATES and salicylic acid are unquestionably the most speedy remedies, according to Dr. Da Costa, of Philadelphia, but should not be employed in those cases in which much weakness exists, or in those cases where a tendency to cardiac complications is manifested. If good results

are not obtained by the second or third day, they had better be abandoned. Cerebral, nervous, and cardiac complications are much more frequent after the use of the salicylates and salicylic acid (whatever its source) than after any system of treatment. The alkaline plan consists in rapid saturation with the alkalies. It lessens complications, but no good can be achieved by small doses. Employ until the urine becomes neutral or alkaline, and then diminish the dose.—*College and Clinical Record.*

PACKING-HOUSE WOUNDS.

Surgeons to the large meat packing houses of Chicago, says Dr. W. L. Axford, find that "wounds from the knives used daily in cutting meat, which, though ground and washed daily, are rarely cleaned and never disinfected," result in the worst consequences. These wounds resist antiseptic treatment, and pursue much the same course as if no treatment was adopted: eucalyptol, iodol, iodoform, and mercury bichloride, have been tried, but without good results. The actual cautery applied to the fresh wound alone appears to stay the intense cellulitis and profuse suppuration that almost invariably attends these injuries.—*The Chicago Medical Standard*, March, 1887.

CONIUM.

An ointment prepared with conium and wool-fat, one drachm of the extract to the ounce, is recommended by Dr. J. Madigan to relieve the pain and vesical irritability of cystitis. "Pruritus ani, if not due to rectal tumours, is often quickly relieved by it, even if fistula be present." For internal use the author prefers the fluid extract prepared from the unripe fruit, which he gives in ten minim doses every half hour until its hypnotic effects are produced. In the insomnia of mental overwork, "conium often acts like a charm in securing slumber."—*Medical Standard*, Chicago, March, 1887. "Locally applied, it appears to paralyse the ends of the sensory nerves."—*Lauder Brunton.* The drug appears deserving of trial. Probably the most suitable preparation for use is the succus.

CARBOLIC ACID POISONING OF AN INFANT.

Professor von Mascha reports (*Vierteljahrsschrift f. gericht. Medicin*) a case of poisoning of an infant soon after birth by the application of a rag wetted with a strong spirituous solution of carbolic acid. The application was made twice. Slight convulsions occurred, and the baby died twenty hours after its birth. Small blood extravasations were found in the cortical substance of the kidneys, and the spleen smelt strongly of the acid.—*Medical Chronicle.*

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

OCTOBER 1, 1887.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XI.—*A Holiday at Mont Dore.* By WILLIAM THOMSON, M.A., F.R.C.S.; Surgeon to the Richmond Hospital; General Secretary to the Academy of Medicine in Ireland.

THESE are days in which springs and baths are becoming more and more popular with the sick public. The patient expects that his medical attendant shall be able to give him all the necessary information about some particular place to which a friend has suggested that he should go. It is not always easy to satisfy such a demand, because the literature is vast, and if one seeks light in a compendium, the statements are often so condensed as to be of comparatively little value. Yet the knowledge must be got somehow, and in no way better than by a personal visit. Then comes the question—Seeing that life is short, how shall I make best use of my time? For the list of baths on the Continent is long, and when the special virtues of each have been considered and weighed, it is hard to say which should win our favour. All have means of attracting the health-seekers, who, wearied of bottles, are anxious to try what the medicine of pure air, *plus* some special spring, may do for them; and when we see the crowds who yearly pass into Germany and France with this sole object, carrying untold gold with them, we have reason to regret that Nature did not supply our own country with more of her abundance.

Circumstances led me this summer to Mont Dore, and the story I have to tell may convey some information to those who have not

visited it, or who know of it only from handbooks of health-resorts. The little town is situated in Auvergne, southern France—a district in itself extensive, little known, but remarkable for its richness of landscape, and the satisfying repose which it offers to any who need new strength or rest for tired body or mind. You can reach it in twenty-four hours from London, but that means travelling to your destination straight on. It is better, perhaps, to break the journey at Paris—certainly so, if the traveller is at all weak or debilitated. You leave the Orleans Station in Paris either morning or evening, and reach Mont Dore in about twelve hours, of which ten are spent in the train. If you travel by night you can have the luxury of a *coupé lit*, but it is expensive—nearly a pound in addition to your ordinary first-class fare. For those who can sleep in spite of the continuous rattle of the train, it is, however, a distinct gain. The *coupé* is most comfortable, and is properly equipped with a lavatory, without soap, however. Passing over a steadily rising plateau, you come in the early morning to Eygurande, and from this the train begins to make a very marked ascent. The country is made up of many small hills, and you pass along the narrow valleys between, or plunge into tunnels, emerging now and then into a bit of bright landscape which would please the most exacting. Here and there the railway track lay high above a lovely stream, and beyond this there rose ever-recurring waves of ground, rich with covering of pine and beech, and ash loaded with brilliant berries. The immediate foreground was green with luxuriant ferns, or purple with heather, which gave the place almost the aspect of a Scotch scene—an illusion which was only dispelled by the occasional appearance of a peasant in blue blouse and clogs, leading his team of oxen along some mountain road.

We reached Laqueuille about 7 30 in the morning, and turned out. This station is on the road to Clermont-Ferrand, near which is Royat, and before it was available the journey to Mont Dore from the train was made by diligence, and occupied about six hours. Now, however, it is reduced to two. The diligence is a huge omnibus, with a top compartment for second class passengers, well sheltered by waterproof curtains from the rain. To me, after a night of unrest, an outside seat was specially attractive, for the morning air was crisp and invigorating, and the early sun was lighting up the hill-sides, or causing them to form curious shadowy outlines on the low-lying pasture land. Then, after much tootling with a horn, our driver gave reins to his four serious-looking steeds, and we

jogged off towards Mont Dore. The table-land from which we started was a couple of thousand feet high, but far away towards the south we could see the jagged shapes of mountains reaching up into the clouds, which clung to them with close embrace. The road was perfect; the long stretch of undulating valley, over which we looked, fertile; but we sought in vain for a teeming population. Beyond a few country carts, and some houses scattered here and there, there was nothing to divert the attention from the scene of placid loveliness which lay below us.

An hour's drive brought us to a clump of mountains which we had seen earlier, and a turn in the road gave us a view of Bourboule lying in the valley on our right some hundreds of feet below. It looked a very clean and comfortable little town, with its circle of villas. Over the roof tops we could see the domes of the baths, for which, like Mont Dore, it is celebrated. But we came no nearer for more minute inspection. Speedily we passed the road leading to Bourboule, which left ours sharply on the right, and we lumbered along as the horses strained at their load to the encouraging "houps" of the driver. There was no view of our destination yet to be had; we seemed to be going straight into the base of a mountain, but a quick turn brought us round it, and opened to us a view of the upper Dordogne valley, in which Mont Dore lies nestled. The view was certainly beautiful and impressive. In a few minutes we were completely shut into a deep scoop in the mountains, which are on every side. East and west of this valley, not a quarter of a mile wide, the slopes rose with abruptness, the lower stretches covered with grass of the most vivid green; then on the west side were forests of fir trees of varying shade, mingled with ash and belts of beech, reaching to the very summit. The eastern wall looked like the embattlements of some old fortress springing sheer up two hundred feet from the termination of a sharp grassy declivity, and bearing upon it a crown of graceful firs. A couple of miles away in front, at the southern end, towered the Pic de Sancy, 6,000 feet high, outtopping its companions, its sharp bare peaks standing out hard and clear against the morning sky, while stretched between all were meadows which for brightness of colour and luxuriance of growth would put even Ireland's Emerald into the shade. Midway, the Dordogne, springing from the junction of the Dore and Dogne at the upper end, rolled northwards, making countless cascades as it rushed among the boulders which form its bed.

Like other things, Mont Dore at a distance and Mont Dore at close quarters differ. From afar it is a picturesque little town, with many red-tiled roofs, from among which there rises the spire of the solitary village church. It looks as full of repose as is the surrounding country. But you find as the diligence rumbles through its single main street that it is full of life at this early hour. Bathers are hurrying to or from the baths, clad in curious costumes, or porters are bearing patients in closed Sedan chairs across the little square which bears the name of Place des Thermes. The first impression on those who have seen other bathing centres is disappointing. The streets are very narrow, and, in many cases, very dirty. The houses, which are mainly hotels, are crowded upon one another everywhere. The architecture is cold and unattractive; the workmanship coarse, the painting has lost its freshness, and altogether you feel that there is needed here some one who, with a sense of art, could put his hand over all, and smooth and soften most things you see about you, and make the town worthy in some degree of the setting in which it lies. But you find in the end that while the hotels are good, bad, and indifferent, they are better inside than they appear to be, and that without luxury you can at least be comfortable.

The sun was shining with great intensity when we arrived, and I was told that the weather had been excessively hot for some weeks. But in a few hours clouds began to come up in thick black masses over the Pic de Sancy, and roll down into the valley. Then the whole sky became dark, the air close and still, and a loud crash, which seemed to shake the earth, heralded a great thunder storm. The peals followed in rapid succession, like mingled booms of heavy guns and the horrible crackle of hundreds of mitrailleuse, and were echoed time after time as the great waves of sound rolled from cliff to cliff. The lightning flashed with almost blinding vividness; the rain fell in sheets; the gulleys were soon overflowing; and the Dordogne speedily changed from a pure stream to a torrent of turbid yellow water. The storm lasted for some hours. In the week which followed we had only two fine days. There were no less than three thunder storms of minor intensity, and the temperature quickly fell from biting heat to severe cold. Although it was August we were glad to gather round the bright wood fires, and those who ventured out when it was not raining did so in Ulsters and other substantial wrappings. These variations sometimes happen even in July; but

altogether the climate is most pleasant, and the early mornings are delightful.

The district of Mont Dore has long been famous for its hot springs. Centuries ago, when the Romans were settled here, the healing virtues of the waters were recognised, and there exist, even now, at various places, the remains of the splendid baths which they constructed. This narrow valley was one of the places to which the sick most resorted; and in the little "parc" are portions of the great bath—massive and quaintly carved stone blocks and pillars—in which they found a medicine for their ills, or satisfied their desire for luxury. The springs, however, enjoyed little more than a local celebrity until the beginning of the present century, when Michael Bertrand made their uses more widely known. Now Mont Dore enjoys a great reputation; but by far the greater number of health-seekers are French. The English are few and far between, and I did not meet a single German.

The origin of this valley was undoubtedly volcanic. Indeed the whole of Auvergne bears the characteristic marks which indicate what were the primary shaping forces. That it is even now close to subterranean regions which may again become the source of trouble to this fair country is shown by the high temperature of the waters which are poured out in such enormous quantities—here, at Bourboule, and at Royat, thirty miles away. In Mont Dore the temperature in some of the springs is as much as 113° F., and in certain of the baths this heat has to be moderated before they can be used by patients. There are in all nine springs, but those which appear to be in most general use as curative agents are the Madeleine, the César, the Pavillon, and the Ramond. The principal—the Madeleine—contains in one quart the following:—

Oxygen - - - -	0·65
Nitrogen - - - -	8·64
Free carbonic acid - - -	0·3522
Bicarb. of sodium - - -	0·5362
„ potassium - - -	0·0309
„ lithium - - -	traces
„ calcium - - -	0·3423
„ magnesium - - -	0·1757
„ and protox. of iron - -	8·0207
Oxide of manganese - -	traces
Chloride of sodium - - -	0·3585
Sulphate of sodium - - -	0·0761

Arseniate of sodium - - -	0·00096
Biborate of sodium, and iodide and fluoride of sodium - - - -	traces
Silicic acid - - - -	0·1654
Aluminium - - - -	0·0112
Organic and bituminous substances -	traces

The diseases which are treated here are many, but those of the respiratory passages take the first place. Thus in the early stages of tubercular phthisis, even when hæmoptysis has occurred, cures are claimed by the medical men. But in chronic bronchitis, asthma, emphysema, tracheitis, some forms of laryngitis, unresolved pneumonia, pleuro-pneumonia, and granular pharyngitis, my inquiries from several patients and my own experience showed results of a very remarkable nature. But my list does not exhaust the diseases which are treated here, for rheumatism and others are also to be found among those which it is asserted the Mont Dore waters have conquered.

The bathing establishment is a large building on the east side of the little Place des Thermes, and near at hand is another known as the Salle d'Aspiration. Both buildings are commodious, and the attention shown to visitors leaves little to be desired. But they share in a marked degree the general character of the town. They have been built for many years, and they have a rather used-up appearance. The exterior is essentially bleak, and internally they lack those attractions in decoration and design which some rival and newer establishments present. The reason of all this is that they are held on lease, and the lease will expire in a year. The authorities wish to have the whole place remodelled and brought up to the latest standard, and they demand a much higher rent for a longer period. The little community is therefore in a perturbed state. More important to them than any other earthly question is—Who will be the new "Concessionaire," and when will they begin to feel the increased influx of money which the promised improvements must necessarily bring them.

The equipments consist of baths made of stone and filled with the water from the springs, foot baths, douches (cold and hot, and of steam), appliances for spraying the throat and nose, and halls in which steam is breathed by the patients. The "course" generally lasts twenty-one days, sometimes a shorter time, or it may have to be stopped if it does not agree with the patient. It varies also as to order and nature, and every one must first seek the advice of a

doctor to have the schedule of treatment drawn up, or to know whether he is at all fit to take the course. The next thing to be done is to provide a thick flannel costume to be worn going to and returning from the baths. For men the garments consist of stockings and trousers in one, a sort of shooting-jacket with a large hood, and a pair of clogs. The ladies are appropriately attired in like material, but there is a variety of colour and pattern which gives picturesqueness to the bathers as one watches them paying their morning visit to the establishment.

The baths are open from 4 a.m. to 10 a.m., and again from 2 p.m. to 5 p.m. The method of procedure (say in a case of bronchitis) is after this fashion :—At a fixed hour two porters call at your hotel, pack you into a closely-shut wooden Sedan chair, and carry you to the Madeleine spring, where you are presented with a tumblerful of the not unpleasant water. Then you are conveyed to the aspiration room, which you enter only in bathing costume, and find yourself in a temperature of 90°, and in an atmosphere thick with steam—so thick that you cannot see more than a few feet ahead. Here you stay for half or three quarters of an hour, then wrap yourself up, enter a chair, go back for another drink at the Madeleine, then to your hotel, where you get into bed at once, only waiting to have the sheets thoroughly warmed by means of a charcoal pan. You probably perspire very freely for an hour. Then, if you have not gone at the unearthly hour of 4, you may get up, have some breakfast, and go out to the park. In the afternoon you will take a foot bath, perhaps, for ten or fifteen minutes, and the day's work is done.

Of course the system is modified according to the special nature of the case. There may be douches or full baths instead of foot-baths. Sometimes symptoms are produced which may cause alarm. Some patients present themselves who can derive no benefit—and for this reason all should make quite sure of their condition before they start on a journey which may only end in disappointment.

There can be no doubt that great numbers either recover or are much bettered by a course at Mont Dore. Two cases were under my observation, where a change absolutely marvellous was produced in a week. In one of asthma, where the patient suffered from violent paroxysms three or four times a day, with copious expectoration—in spite of visits to Bournemouth, Rostrevor, Blarney, and other home health-resorts—the attacks absolutely disappeared, and the cough and expectoration become almost *nil*.

He had wasted from 14 stones weight to 9½ stones, and in three weeks he increased 8 lbs.

That the virtue does not lie in the waters alone I am sure. As in all such health-resorts there are several factors which produce the result, and here the water is aided by altitude—for the town is nearly 4,000 feet above the sea—and by the exquisitely clear and balmy air. Then the patients are well fed, and if they are able they can make daily excursions on horseback or in a carriage up the mountains which enclose the valley, and add many hundreds of feet to the already considerable height at which the town is placed.

It is an interesting fact—which is pointed to with great pride—that the inhabitants of the valley are exceptionally healthy. Consumption is said to be completely unknown, there is an absence of all epidemics, and amongst the bathers acute affections, acquired on the spot, are hardly ever encountered by the doctors. Of course rival places claim superior advantages. La Bourboule prints in large letters that its waters have a greater quantity of arseniate of sodium than those of Mont Dore. Then someone suggests that the minerals in Bourboule waters are variable in amount, because they are acquired as the waters pass through certain formations. Bourboule resents this strongly, gives proof to the contrary, and says in return that it has a more fixed climate and sumptuous accommodation; while the residents at Mont Dore point out that while they enjoy whatever cool there is, Bourboule, more than a thousand feet below, lies sweltering in the sun. So the rival claims are urged. But both stations have their special advantages, and it will be the business of the patient to find out which is likely to suit his particular condition. As regards Mont Dore, there is only one higher health resort in France—Barèges. When the lower villages are hot and stuffy this is comparatively bracing. True, in July and early August the sun sometimes glows fiercely, but there is pleasant shade under the trees, and on the adjacent heights there is almost always a cool air which tempers the pervading heat, and is deliciously refreshing.

Life at Mont Dore is certainly not violently exciting. Indeed, after the sights have been seen, one becomes somewhat anxious to have something more stirring. But its quiet is a distinct advantage to the invalid who is compelled to take things as they come. The morning is spent at the baths, or in the park, or in reading the numerous Paris newspapers, which have nothing more interesting

than the latest city horror, or, better still, in listening to a very excellent band, which plays from half-past nine to half-past ten. Or if you like you may stand in the Place, and watch the bathers as they pass to and fro—some who are not very ill strolling quietly to the first spring, clothed in plain or variegated flannels; others being carried at a swinging trot by a pair of porters. Suddenly, with blowing of horn and cracking of whip, the morning diligence from Laqueuille rolls up the street, and then a crowd of hotel servants, male and female, rush frantically after it, and range themselves around in expectation of captives. They are very orderly however. They do not shout, and are kept at a civil distance by the solitary gendarme of the town. It is only in their faces, as they succeed or fail in carrying off a prize, that they exhibit their feelings. Then quiet reigns for a time, until the whole town reverberates with clanging bells. They are hung outside the hotels, and are such as are used at home for summoning workmen to a factory; here they are employed to call visitors to meals. One begins, then dozens crash in as a chorus, each bell-ringer apparently trying to drown the clangour of all the rest, until the din is terrible. Fortunately, it only lasts about five minutes, although it seems longer; but you get accustomed to it, and soon cease to think strongly.

Quiet once more during *déjeuner*, save the clatter of many voices, and you have to determine how you will spend the rest of the day. If it is fine, you will probably go on an excursion; if it is wet, retire to the casino, and try to play French billiards with cricket balls. For the excursions there are plenty of horses and donkeys, most of them very good, and landaus, or small arm-chairs borne by porters. The prices for short journeys are, however, excessive, and it would be an advantage if the authorities fixed a tariff as they do for the baths. The favourite excursions are to the Pic de Sancy, the Capucin, the Gorge d'Enfer, the Serpent Waterfall; besides which there are many other places worth seeing. From the top of Sancy a magnificent panorama of lakes and mountains and valleys spreads out for fifty miles round, and on a fine day the dim outlines of distant snow Alps can be made out. Grass covers the mountains almost to their summits, and the ascents can generally be made without much difficulty or danger.

Mont Dore has its *parc*, casino, and theatre. The *parc* is small, and decidedly ready for improvement. At the casino there is the inducement for mild gambling at the game of *petits chevaux*, or baccarat; and in the afternoons now and then dances are given for

the children. The theatre is very good; old French comedies and comic operas are presented, and occasionally some really good actors make their appearance. So the visitor can fill up the day not unpleasantly.

The season opens about the middle of June, and closes on the 15th of September. The period is thus short, because the weather at the extremes of the season is unreliable. The snow often falls before the actual day fixed for the close, but sometimes patients can stay until October with advantage. But the arrivals begin to cease about the second week in August, the hotels are practically empty towards the middle of September, the doctors take their departure, and Mont Dore soon goes into its winter sleep.

ART. XII.—*Abortion: its Ætiology and Treatment.*[a] By ALEX. DEMPSEY, M.D., Q.U.I.; L.R.C.S.I.; Physician and Gynæcologist to the Mater Infirmorum Hospital, Belfast; Vice-President, Ulster Medical Society, &c.

IN the treatment of abortion, as in every other pathological condition, a correct knowledge of its ætiology is necessary. The adoption of a general routine plan of treatment for all cases will often result in failure and disappointment. The usual practice, when called upon to see a case of threatened abortion, is to ascertain whether there is much hæmorrhage or pain, and to examine the condition of the os. If only slight hæmorrhage is present, and little or no pain, and if the os is not dilated, an effort is made to arrest the abortion. On the other hand, when hæmorrhage is profuse, and has been going on for some days, and when this is accompanied with pains and dilatation, treatment directed to the speedy emptying of the uterus is adopted.

I look upon this plan of procedure as a rather rough and ready way of dealing with these cases, and not in keeping with our knowledge of the causation of abortion.

In a practical discussion like the present it would be out of place to do more than briefly refer to a few of the principal features in the ætiology and pathology of abortion, and I will only do so to exemplify the treatment adopted for different conditions. Abortion is the dissolution of the partnership between the ovum or fœtus and the mother. It is a visible evidence of their inability to agree. The initiative in the process of severance may be (1) on

[a] Read before the Ulster Medical Society, 1887.

the part of the ovum, or (2) on the part of the mother, or (3) it may be due to an abnormality of relationship between the two for which neither is responsible.

The causes of abortion on the part of the ovum are all diseases of the fœtus which occasion its death, and all diseases of the appendages which tend to a similar result. Among these may be mentioned the various zymotic diseases communicated by the mother to the fœtus—syphilitic disease of the ovum, cystic degeneration of the chorion, imperfect development of the decidua reflexa, fatty degeneration of the placenta, knots in the cord, and extravasations between the appendages. On the maternal side, abortion may be induced by all causes leading to ill health on the part of the mother, such as the abuse of alcohol, unsanitary surroundings, over-fatigue and excesses of every kind; also during the course of zymotic fevers and in acute attacks of the respiratory or other important organs; poisons in the blood, as of syphilis, of lead, and of the excrementitious products present in albuminuria; causes acting through the nervous system, such as shock, fright, and anxiety, and reflex nervous irritation communicated from other organs to the uterus, and other disturbances accompanying the pregnant state; direct injuries to the uterus, as blows or falls; flexions and displacements of the uterus, with or without adhesions; fibroid tumours, or other interference with the enlargement of the uterus; malignant disease and the existence of endometritis at the time of conception.

Under the head of abnormal position of the ovum, placenta prævia occupies the principal place.

Cases of extra-uterine gestation, while necessarily giving rise in the vast majority of instances to an early and abrupt termination of pregnancy, come under a special class, and need not be further referred to.

After enumerating all these various causes of abortion, the practical question arises—Are we able, when called upon to treat a case of threatened abortion, to tell from what particular cause it arises, and, if so, is there a special treatment for each variety? I think the answer to this question should, after careful inquiry and examination, be in the affirmative.

The history of cases of hydatid disease of the chorion is suggestive of the condition. The rapid enlargement of the uterus, the severe general disturbance of the health, the presence of a peculiar sanguineous discharge and the absence after the fourth month of

the fœtal cardiac sounds, furnish strong presumptive evidence; but when these are associated with the discharge of portions of the cysts the diagnosis is complete. The treatment here is obvious. The sooner the uterus is completely emptied of its contents the better.

In November, 1885, I saw the following typical case:—Mrs. M'C., multipara, between three and four months pregnant; very bad health all the time; for two weeks had sanguineous discharge of prune juice character; had been taking medicine to arrest it. I found the abdomen as large as it would be at the sixth month of pregnancy—quite out of proportion to the period of gestation. She had felt no fœtal movements, and there were no fœtal heart-sounds discoverable. The os was patulous, but no pains had set in. I diagnosticated cystic degeneration of the chorion and gave a few large doses of powdered ergot for the purpose of emptying the uterus. Next day I found almost a basinful of hydatids had been expelled, attended by severe hæmorrhage. The patient afterwards did well. There was no use in this case endeavouring to prolong pregnancy; on the contrary, the proper course was to terminate it as soon as possible.

In a syphilitic patient with hæmorrhage, however slight, no hope should be entertained, nor time lost in preventive treatment, provided we are able to satisfactorily exclude the operation of other causes. The ovum is already dead, and its casting off should be expedited. The existence of fatty degeneration of the placenta can be surmised only from a history of previous abortions or premature confinements in which syphilis can be excluded. Abortion from this cause generally takes place late on in the pregnancy when the child is viable. I have a patient under treatment at present who aborted three times in succession before the end of the sixth month. She is now pregnant, and under the use of iron and chlorate of potassium, she is into the seventh month, and may go on to term. But in these cases, also, I doubt if, when signs of abortion set in, there is any hope of arresting it. In this disease, according to Goodell, abortion is an anticipation of the natural termination of the existence of the placenta.

I never knew abortion occurring during fevers or acute diseases to be arrested. In albuminuria during pregnancy, abortion appears to be the best effort nature can put forth to relieve itself. It is questionable practice to attempt to prevent it, and is not likely to be attended with success. The poison has been slowly accumu-

lating, and if this safety valve for escape were denied the patient a greater danger might arise. In this condition, too, other causes must be excluded. The use of the catheter, and the examination of the urine, furnish strong evidence of the cause. Of course there are some cases in which the albumen is scanty that the process of abortion might, if possible, be safely and advantageously arrested. The presence of malignant disease of the cervix, I think, should be also a reason for non-interference in the early termination of pregnancy.

Tumours in the neighbourhood of the uterus, and adhesions preventing its growth, will, in most cases, precipitate abortion in spite of all our efforts to prevent it. But an attempt should be made in the hope that stretching and accommodation may take place, and the uterus, if retroflexed or retroversed, should be gently raised. There is usually not much difficulty in restoring a gravid retroversed uterus if no adhesions exist. I have in my mind one case with a retroverted uterus in which signs of abortion had set in; in it, by the administration of opium and replacement of the uterus in the genu-pectoral position, abortion was prevented. The diagnosis of this cause of abortion is generally easy. Fortunately an opportunity of treating misplacements of the gravid uterus is afforded before active symptoms of abortion set in.

The constant back-ache, the rectal and bladder trouble, the weight and sinking complained of, make the majority of patients, if not decidedly careless about their condition, apply for advice. A vaginal examination will at once discover the cause of suffering. The treatment here is rest in bed in the face position or inclining towards the face. If there are no adhesions, a few days' rest will rectify the displacement. Gentle steady pressure in Douglas' pouch above and behind the retroverted uterus, while the patient is placed on the knees and face, will expedite the restoration, but if force be used, there is danger of either precipitating abortion or of rupturing adhesions, if they exist, and thus causing cellulitis or an hæmatocele.

If the pregnancy is not far advanced, and there is difficulty in restoring the uterus to its normal position, or if there is a tendency for it to return to its old position after being restored, or an inability on the part of the patient to rest in bed, under such circumstances I am in the habit of introducing an easy-fitting Hodges' pessary with beneficial effect. At the same time opium or some other sedative medicine should be given to allay irritation.

The diagnosis of cases of abortion in which endometritis existed

at the time of conception, may be arrived at from the history and by a vaginal examination. The cervix is hard and indurated, the os patulous, rough, and abraded. In such a condition the nutrition of the decidua is likely to be so much interfered with that a continuation of the pregnancy is impossible, and no steps should be taken in that direction if hæmorrhage is present.

In fibroid tumours of the uterus and abnormal position of the ovum, as in placenta prævia, the occurrence of early hæmorrhage almost invariably terminates in abortion. I know no means of diagnosticating these cases of fibroids in the pregnant state, except they be large or one has a previous knowledge of the patient. The occurrence of repeated hæmorrhages should excite suspicion of the existence of placenta prævia. I think that often a tumour of the body or fundus is the cause of placenta prævia in pregnancy. A suitable nidus for the ovum is not found until it drops so low down in the uterus as to come into dangerous proximity to the unexpanding cervix. The first fatal case of placenta prævia I attended was in a patient suffering from a pretty large mural fibroid. Hæmorrhages recurred from time to time until abortion occurred at the sixth month of pregnancy, followed by septicæmia, from which she died.

In all cases of threatened abortion from nervous shock, direct injury, reflex irritation, or from any other cause unassociated with pathological change, an attempt ought first be made, even after the appearance of hæmorrhage and pain, to arrest it. These are about the only cases that give much hope for successful preventive treatment. An opportunity is frequently given in these cases for treatment before the onset of active symptoms. A feeling of uneasiness or anxiety, and what is frequently described by patients as "a feeling of confusion in the womb," is complained of, and advice is sought in apprehension of consequences. Of course with these, as with others, if flooding is profuse, pains regular, and the os dilated, there would be no use in attempting preventive treatment.

The first essential in the preventive treatment of abortion is absolute rest, from the onset of the very first symptom until all uneasiness has for several days disappeared. Until some time ago I was in the habit of giving, at the same time, opium in combination with an astringent. Latterly, at the outset, I give a hypodermic injection of either morphin or nepenthe, and then a mixture containing either nepenthe or morphin every third hour until the

symptoms pass away, or their urgency demands a different course of treatment.

I have tried the liquid extract of viburnum prunifolium in some cases, but not sufficiently to enable me to say much for or against it. I gave it to a lady last June who was threatened with abortion at the second month. She was a multipara, and was under treatment before becoming pregnant for subinvolution and endometritis. There was an abrasion of the cervix, and I thought that the hæmorrhage, which was slight, might in part be due to it. I prescribed 40 minims of the liquid extract every third hour, with what I considered good effect. The discharge on the third day had almost quite ceased, but owing to the sickness of stomach it produced I was obliged to discontinue the drug. The hæmorrhage, however, did not return. After keeping her some days longer in bed I allowed her up. In a few days more she went to the seaside, and was there all July and August. On the day after she returned home hæmorrhage again occurred, and I was sent for. I was surprised to find on examination that the uterus was just the same size as it was two months previously. As the bleeding was smart and the os dilating, I plugged and gave ergot, and on my visit next day I found a small fleshy mole had come away. The ovum had perished in June, but had been retained for two months. The drug had evidently made the uterus tolerant of its presence, and probably prevented its complete separation. The case was, however, not a suitable one, owing to the previously diseased condition of the womb, and I intend giving this medicine a further trial.

The treatment of actual abortion, when expectancy is over, is frequently troublesome and perplexing. If the liquor amnii escapes and the fœtus comes away, the placenta and membranes are often retained for days and give rise to troublesome hæmorrhage. When this latter is arrested and the uterus unemptied, the danger of septicæmia sets in. All such cases give any amount of trouble and anxiety to the medical attendant, and not infrequently blame if any bad result should occur, either immediate or remote. If the ovum remains entire, as is usually the case in early abortion, the difficulty is not so great. I think it is bad practice to hasten its removal too much. Time should be given for the proper dilatation of the os before any attempts are made at removal by the finger introduced into the uterus. Such attempts rupture the membranes and occasion irregular contractions, which terminate by shutting in instead of expelling the ovum. A similar

effect is produced by the improper administration of ergot. This drug should be given in large doses in quick succession for three or four hours and then stopped. It should not be commenced too soon or continued too long. I have no faith whatever in the liquid extract in abortion. If the administration of ergot is commenced too soon there is a greater danger, to my mind, of retention of the secundines, than if it had not been given at all.

If when called to a case I find abortion inevitable, but the os not much dilated, I prescribe opium and dilute sulphuric acid, and plug the vagina. In ten or twelve hours I remove the plugs, and generally find pretty fair dilatation present.

I introduce fresh plugs, and order ʒii. (two drachms) of freshly powdered ergot, in four powders. The first two to be given after infusion within half an hour of each other; the other two with two hours' interval between them—that is, in four and a half hours two drachms of powdered ergot have been taken in infusion. When the tampon is removed again the entire secundines are generally found behind it, or so near to the os that they can be removed by the finger. If the os is open, but the placenta high up, I endeavour, by pressure above, to drive it within reach, and I introduce as much of my hand as possible into the vagina, so as to get my finger well into the uterus. By this means I can generally scrape away the whole of it. I have tried ovum forceps and ordinary uterine forceps when I have failed with the finger, but I never got any assistance from them. If, after all, some portion of the placenta remains, I give the ergot a second time and go through the same process. Should failure again result, I use antiseptic injections and give a purgative early. I have found this latter sometimes dislodge the broken up portions of placenta by, I presume, reflex action. I remember one case where a whole placenta, at the fourth month of pregnancy, which I was unable to get away, was dislodged during a purged motion from castor-oil.

I have no experience of the use of the sponge or tangle tent for dilating the cervix in abortion, and I do not think it is a very safe practice. I remember one case where, owing to some obstruction to the exit of blood at the cervix, the uterus enlarged in one night to nearly double its size, and the pain was most intense. I feared in this case either rupture of the uterus or regurgitation through the Fallopian tubes, and effusion of blood into the sac of the peritoneum. I had one case of abortion where this actually did occur, producing an immense pelvic hæmatocele.

Plugging the vagina with cotton wool does not absolutely prevent bleeding, but it controls it so well as to render the amount harmless. Besides, its presence in the vagina excites uterine contractions, and is, therefore, of assistance in the case. The offensive smell can be prevented by saturation with glycerine. For plugging I always use a duck-bill speculum, and again when removing the plugs. In this way very little pain is occasioned. There is no necessity to fill the vagina very tight; moderate distension is sufficient. I have no doubt chloroform would be of valuable assistance in these operations, but I have never used it. Indeed, latterly, with the plan of treatment I have sketched out, the ovum either comes away without operative interference, or requires so little as to occasion scarcely any pain.

I regard the curette as a very valuable instrument when small portions of the placenta are retained, and I have latterly used it with satisfactory results. With due antiseptic precautions there is no danger in its use.

I have purposely omitted all reference to the treatment of diseases consequent upon abortion, as falling outside the scope of this discussion.

In conclusion, I desire to express my strong belief in the value of antiseptics in all examinations and operations required in the treatment of abortion.

ART. XIII.—*The Evil Effects of Imperfect Sanitary Laws.*[a] By E. MACDOWEL COSGRAVE, M.D., F.K.Q.C.P.

ALTHOUGH sanitary legislation is comparatively recent, being practically of the last forty years, and although the Public Health Acts did much to codify Acts and clauses dealing with sanitary matters, sanitary law is still not all that might fairly be desired, either in clearness or completeness. Acts have to be "read together," and judicial "decisions" are needed to explain how they are to be interpreted. The Dogs Act of 1871 affords a ludicrous example of this; the first section enacts that any "police officer may take possession of any dog, that he has reason to suppose savage or dangerous, straying on any highway, and not under the control of any person." The question at once arose whether a dog unchained, but "at heel," was in "control," and that question,

[a] Read before the British Medical Association in the Section of Public Medicine, Friday, August 5, 1887.

simple apparently, and of primary importance in carrying out the Act, remains, I believe, after sixteen years still unanswered.

A great deal of evil arises from the slowness and expense of legislation, and the slowness of local authorities to make use of powers when gained. For example, in Dublin, in 1880, excellent by-laws were adopted regulating the building of new houses. During the past six years, however, the great majority of new houses have been erected in the townships adjoining the city. One township (Drumcondra) during that period nearly doubled, increasing from 614 to 1,125 houses, and yet by-laws to regulate the erection of new buildings were published only this present year.

There are many other examples of local interest where the imperfection of the Sanitary Laws does harm. I can only briefly mention a few:—

The Public Health Act imposes penalties on those suffering from infectious diseases, who expose themselves in public places, &c. These clauses are of very little value; they may prevent cases being removed too soon from hospital, but that is about all. An isolated case may with impunity act as a centre for the dissemination of disease. We have no compulsory notification, and there is very little voluntary notification, so that it generally happens that until a death occurs the Sanitary Authorities have no knowledge of an outbreak, and the earlier and milder cases are let mix with other people in the house, in the street, or even in the school.

If the members of our profession, recognising, as they all do, the valuable results which have followed the compulsory notification of cause of death, would not oppose the carriage of a similar measure for tracing the origin and spread of infection, the popular prejudice would soon be removed by tact on the part of those who had the carrying out of the measure, more especially if it were once recognised that the earlier notification was given, the less was the subsequent interference and publicity.

Another good example is seen in the clearing of unhealthy spaces. Generally the process is slow and uncertain. Sir Charles Cameron, in his Report upon the State of Public Health in Dublin in 1886, mentions the difficulties in detail—the necessary steps under the Artisans and Labourers Dwellings Acts, and Housing of Working Classes Act, may occupy from one to three years, according to the number of interests to be dealt with; and even when, as in the Wood-street area, a clearance has been made by a vigorous use of part of the 107th section of the Public Health Act, which deals

with "any premises in such a state as to be a nuisance or injurious to health," the space has to remain derelict, as, if any use is made of it, the owners who, sooner than put the buildings into repair, allowed them to be first closed and then pulled down, would at once demand fancy prices for their interests.

In clearing sites for building, a cognate local difficulty is that of the expense of appeals from the arbitrator's awards. In England appeals can be made only when the award is over £1,000; in Ireland all awards, no matter how small, are liable to appeal. In one case an award of £1 19s. was raised by a jury to £40.

The practical evil of Parliament not giving wider sanitary powers to local sanitary bodies is well seen in reference to the public abattoir, erected by the Corporation in 1881 at a cost of over £14,000; it is only separated from the Cattle Market by a road, and a convenient tunnel connects them. The Cattle Market is within the city boundary, but the abattoir is outside it, and, notwithstanding its convenient position, the Corporation cannot compel the butchers to use it, and so it is carried on at a heavy annual loss, and seventy-four slaughter-houses are scattered through the city, many in the most densely-populated parts. At present the deadlock is caused by the difficulty of passing an Act of Parliament, yet all that is wanted is that the abattoir should be declared to be, for sanitary purposes, within the city.

There are three things we need—first, a Board of Health with extended powers and (as the health of the people, is of such national importance) in advance of and not behind public opinion; secondly (as suggested by the Registrar-General in his Presidential Address at the last Annual Meeting of the Dublin Sanitary Association), Parliament ought only to lay down the great principles, leaving the local authorities to settle local details with the consent or at the instance of the Board of Health—in this way sanitary laws would no longer be complicated by a multitude of details, meant to meet contingencies arising in any part of the kingdom, and which add greatly to the difficulty of carrying out the Act; thirdly, the law ought clearly to establish that a man has a property in his life and health, and that they ought to be protected against insanitary as well as against other dangers. A fruitful source of illness in the new artisan districts in and around this city arises from the greed of landlords, who induce tenants to enter into possession before the workmen are well out of the house, by granting a reduction of rent for some months. I have at present

under my care a woman whose health is completely broken down from this cause. Four years ago she went into a new house with imperfect drainage and contracted rheumatic fever; before she had fully regained her strength she got enteric fever, and will never again attain her former standard of health. Another case was a girl who just came from Scotland to stay with her sister who had moved into a new house; she slept against a wall which used each morning to be covered with beads of moisture, and died rapidly of acute phthisis. In the dispensary of a hospital in a new artisan district, I find such cases but too common.

Again, the drains may be defective, and members of a family moving in and not acclimatised are stricken down; or the drain may be perfect, but rats burrowing from the defective drain of the next house may admit sewer-gas, and endanger health and life. In either case, what remedy is there at present?

Another great evil, and a difficult one to deal with, is, that a man may marry and have a family, and, although in regular work and in receipt of good wages, may wilfully deprive his wife and family of proper housing, food, and clothes, deliberately allowing his family to grow up with weakened constitutions and little power of resisting disease, when he might have reared them in health and strong vitality. This evil is very common here, as Sir Charles Cameron says in his Report, already cited—"If the people of Dublin were well fed and clothed, and did not indulge in an excess of alcoholic liquor, I believe the city would have a low death-rate in spite of its wretched tenement houses." It is a serious point that this terrible wrong is inflicted voluntarily on the weak and helpless, that it is causing the race to rapidly deteriorate, yet the law does nothing to check it.

No branch of legislation is so much in arrear as sanitation, partly because sanitarians are in advance of public opinion, and partly because there is no "cry" with which to go to the polls. Last year had it been proposed to subject all the dogs in the country to Pasteur's prophylactic process, how gladly the voters would have flocked in, but it is quite impossible to make general sanitary improvement a test question, so that some such means as I have indicated seem to be required if sanitary improvement is not to be kept back by imperfect sanitary laws.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Transactions of the Academy of Medicine in Ireland. Vol. IV. Edited by WILLIAM THOMSON, M.A., F.R.C.S.; General Secretary. Dublin: Fannin & Co. 1886. Pp. 463.

THE amalgamation of the Societies into one Academy may be now pronounced to be a proved success. The numbers of Fellows and Members in 1884–85 showed an increase upon the totals of 1883–84; but the number of Student Associates, we regret to observe, remained stationary and insignificant. Fifty-one papers were read at meetings, the Medical Section standing numerically highest.

This volume of Transactions is, as usual, well edited and printed; but we are sorry that it should have been found, or thought, necessary to go out of Dublin for the execution of some of the illustrations. May we ask the editor's attention to By-law 64? "Discussions of importance or interest arising out of communications," which have been deemed suitable for publication, "shall" (but do not) find a place in the Transactions. Not a few of the cases here printed are important only as pegs on which discussions might be hung. The Rules appear to make no provision for the publication of addresses, delivered either by the General or by the Sectional Presidents. We venture to suggest the desirability of taking an early opportunity of remedying this omission.

The volume opens well with Dr. J. W. Moore's paper *On Relapse in Enteric Fever*, which, though nominally only a "case," is really something more than a mere report, and discusses some points of great interest in connection with the disease. Dr. J. M. Purser's paper *On the Therapeutic Uses of the Digestive Ferments* has been printed in our own pages. We think he shows that the true use of these ferments, as drugs, is to prepare food, outside the body, for digestion. "This use of the ferments, inaugurated by Liebig, and so much extended in late years, chiefly through the labours of Sir William Roberts, is, I believe, the true one, and

destined to replace altogether their internal administration as drugs." Dr. C. J. Nixon's essay on Mitral Murmurs should also be noticed.

In the Surgical Section Mr. Franks discourses on a text supplied by Dr. Watson Cheyne—"The ideal wound is a subcutaneous one, kept at perfect rest." He gives up carbolic gauze, and advocates the use of dry, absorbent dressings—cotton, turf-moss, or wood-wool. The two latter substances absorb more avidly, but are inferior to cotton in capacity. In Mr. Tobin's account of the *Surgery of the Late Expedition to Suakin* we note that ether was preferred to chloroform as an anæsthetic. Ether, he thinks, should be the recognised anæsthetic of the services. He admits the objection founded upon its greater bulk, but does not notice the difficulty of obviating inconvenient waste from evaporation in hot climates. An elaborate and valuable paper by Mr. Franks, *On the Nature of Scrofulous Glands of the Neck, and their Surgical Treatment*, closes the Surgical Section of the volume.

The most noteworthy papers in the Obstetrical Section are two by Dr. T. M. Madden—*On the Treatment of Chronic Cystitis in Women*, and *On the so-called Laparotomy Epidemic*—and Dr. Neville's on Funis Presentations. Women appear to suffer from chronic cystitis more commonly than is generally supposed, the most frequent cause being "that long delay in complying with the call to micturition to which women are so generally trained, or which may be occasioned by accidental circumstances, such as a long railway journey." In this country, Dr. Madden believes, the formation of an artificial vescio-vaginal fistula, recommended by Sims and practised by Emmett, is rarely necessary. Urethral dilatation, sufficient to produce temporary incontinence of urine, so as to give rest to the inflamed vesical mucous membrane, will be found an effectual means of cure. In the Pathological Section Dr. Finny describes an incident of great rarity, though not unique—a case of gastric ulcer opening into the heart.

There is not one of the five papers read before the Sub-Section of State Medicine which will not be read with interest and profit. We recommend especially Dr. Jacob's *Working of the Contagious Diseases Acts*, and Dr. J. W. Moore's *Remarks on the Climate of Dublin*. We shall conclude our brief notice of the volume with the expression of a hope that the editor will see his way to include discussions and presidential addresses in future volumes of Transactions.

RECENT WORKS ON DIET AND DIGESTION.

1. *Indigestion and Biliousness.* By J. Milner Fothergill, M.D., Edin.; Physician to the City of London Hospital for Diseases of the Chest, &c. Second Edition. Revised and enlarged. London: H. K. Lewis. 1887. Pp. 318.
2. *A Manual of Dietetics.* By J. Milner Fothergill, M.D., Edin.; Physician to the City of London Hospital for Diseases of the Chest, &c. London: H. K. Lewis. 1887. Pp. 255.

Both these works, by the same author, and published during the present year, may be considered together.

1. The "Manual of Dietetics" repeats in somewhat fuller detail much of what relates to the use and value of the different articles of food described in the first of the two books under review. As many of our readers are probably familiar with the latter in its first edition, any extended notice of it now is unnecessary. For those who are not acquainted with it, we may say that, in addition to giving a good description of natural digestion, and of the symptoms and treatment of indigestion, both primary and secondary—a subject upon which Dr. Fothergill informs us he "enjoys some reputation as an authority"—its keynotes are (1), that it is the amount of food digested, not the amount swallowed, which should be the measure of nutrition; and (2) that the stomach is not the sole seat of the digestive act. The consideration, consequently, of the functions of the liver, and the symptoms due to their disturbance, with the medicinal and dietetic treatment thereof, together with pages of extracts from the works of Murchison, Henry Bennett, Budd, Lauder Brunton, and others, occupy half the work.

Dr. Fothergill describes two kinds of "liver disturbance:"—(1) Biliousness proper; (2) Lithiasis or Lithæmia, which takes the form of indigestion rather than that which is known as gout. In the first form, he says, bile-acids are the offending matter. In the second, the formation of lithates by the liver is the malady *par excellence.* Gout he defines as being "due primarily to functional derangement in the liver in the splitting up of albuminoids; the blood is surcharged with nitrogenised waste, and this in time leads to structural changes in the kidneys!" Why he should add this note of admiration to his theory, unless it be in wonder at it himself, we do not know.

In the treatment of liver disturbance, our author shows that

the time-honoured, although oft-discredited "blue pill and black draught" treatment, while often the means of giving temporary relief, is, as well as any other purely medicinal treatment, fraught with evil, unless followed up by a rational dietary. Such a dietary he lays down. It should be non-nitrogenous. Albuminoids, he holds, are the source of trouble, either from a "disturbance" or from a "perversion" of their metabolism, thus constituting two forms of hepatic derangement which should be distinguished in practice. Dr. Fothergill shows that a great variety of farinaceous dishes are available, which, with a little ingenuity, and when combined with various fruits and vegetables, afford a daily dietary by no means leading to a monotony of dishes—"the curse of all dieting." He seems to hold the view that the liver has a selective function in digestion; and he considers that there is a strong tendency to failure in the digestive organs at the present day, due to the excitement and mental tension of our mode of life. How he proposes to meet this evil is hinted at in an appendix.

There is no subject, perhaps, in connection with medical education which, as a rule, is so neglected as dietetics. The necessity, in a clinical hospital, for having a scale, more or less limited, of diets, and for having large quantities of the same articles of food served at stated hours, militates considerably against practical instruction in the selection, special preparation, and proper mode of administration of the form of nourishment suitable for particular cases. It is but too often only when the student becomes a practitioner that he begins to appreciate the importance of an acquaintance with this aspect of food. If he is "smart" he may perhaps, by degrees, pick up a good deal of information from his private patients and from their relatives or their cooks, without betraying much ignorance and want of resource. But anxious as he ought to be to do the best for his patient and for himself, he will probably feel a sense of humiliation at the empirical knowledge thus obtained, and will regret that his physiological and clinical instruction had not been made more intelligible and useful to him in their application to the scientific aspect of food and its proper administration.

With an awakened sense, as a clinical teacher, of responsibility in giving definite instruction in dietetics to our students, and recognising how little information, if any, can be gained by a chance glance, it may be, at a "Diet Card," or by hearing an order to put a patient on a certain diet, we hope Dr. Fothergill's

assertion may be borne out, that "the time is at hand when systematic lectures on Food will be a part of medical education." Our author, with pardonable vanity, confesses that he is not without hope that his Manual of Dietetics has some claims to be a text-book for such lectures, and we welcome it as a great help in such a direction. His suggestion that the Examining Bodies should ask questions on dietetics, is a good and practical one, and would probably, if adopted, have great weight in giving the subject the importance it indubitably deserves.

2. The "Manual" consists of two parts. Part I. gives a detailed description of the digestion and destiny of the different constituent elements of food, describes the methods of preparing foods, discusses the value of condiments—too often neglected in cases of sickness—and the use of beverages in health and as food-accessories. Under the head of Stimulants, animal and vegetable, nitrogenous substances—*e.g.*, beef-tea, tea, coffee, &c., and alcohol, are spoken of. Then follows a chapter of great value on Fluid Foods (milk, meat-broths, malt extracts, &c.). Preserved and canned foods are briefly touched upon, and a description is given of most of the numerous substances at present in the market known under the name of "prepared foods." The artificial digestive agent and artificially digested foods, and their various uses, not only as "baby foods," but as well in cases of weakly digestion in adult invalids, is next pointed out. The concluding chapter of this part treats of the artificial digestive agents and of predigested foods. Sir W. Roberts' rules for their preparation are given in full in both works.

Part I. of the "Manual" is, in our opinion, the more valuable and better portion of the work. Part II. is less original, and savours more of the art of book-making in which Dr. Fothergill is such an adept. It treats of the diet suitable during the different periods of life, and in various special morbid conditions—*e.g.*, in acute diseases, in gastric affections, diabetes, Bright's disease, gout, indigestion, &c., &c.

With regard to malt extracts, now so largely and perhaps vaguely prescribed, Dr. Fothergill points out their value, not alone as a form of food—deficient, it is true, in fat—but also their use and proper modes of employment in predigesting starches, &c.; as a sweetening agent, especially when sucrose should be avoided, and for making a pleasant and nutritious drink in fevers, &c. Attention is also repeatedly called to the easier digestibility of

starches when roasted before being used for the preparation of various puddings, and as a valuable addition to fluid foods.

A most important part in the work, especially to the non-medical reader, is that in which Dr. Fothergill—as he himself expresses it—"knocks the brain out of the superstition that beef-tea, as ordinarily made, is a food." He is also effective, with the help of many extracts from authorities, in putting the value of alcohol in a true light. At a time when their use is so general, it is well to be reminded that all "infant foods" must be looked upon as additions to, not substitutes for, milk; and also of the importance of fat in the feeding of children, and in neurosal affections. He gives several hints as to ways in which fat may be "smuggled" into children, and descants upon the food value of "toffee." Useful as the hypophosphites undoubtedly are in many cases, Dr. Fothergill surely makes a slip when he speaks of them as a means of furnishing phosphorus for the nutrition of the nervous system.

Dr. Fothergill admittedly writes for the non-medical reader, as well as for the medical one. We do not quarrel with him for doing so—indeed, we should, perhaps, on that account make some excuse for an exaggeration in the "Manual" of his peculiar style, excelling itself, as it here does, in numerous quotations—Scriptural, poetical, and historical; perverted application of adjectives, feeble attempts at facetiousness, and in the use of hosts of needless notes of admiration. Such is, we venture to think, a flaw in the literary work of an author whose writings contain much that is useful and suggestive. No one can peruse either of these volumes without getting hints which will be of service in everyday life or in practice; so that we should not, perhaps, cavil at the way in which Dr. Fothergill chooses to give us information or express his views. He is himself, doubtless, the fittest judge of what best answers his own purposes, and he has already informed the world that his books have brought him practice. Each of the numerous volumes of his prolific pen has produced its modicum. Still, it is strange to read in a medical work of the probability of patients with chronic heart disease "paying attention to ginger snaps," or letting their "eyes rove to a gingerbread loaf"; and to come across such expressions as that "a malt extract is a lovely food," that "sugar corn is a beautiful digestible dish," or that "soda has a filthy taste."

The work on "Indigestion and Biliousness" has a good index and no typographical errors. The "Manual" has a number of such errors, and no index.

Beiträge zur pathologischen Anatomie und Physiologie. Herausgegeben von Dr. Ernst Ziegler und Dr. C. Nauwerck. Zweiter Band. Erstes Heft. Jena: Fischer. 1887. Pp. 171.

This number of Professor Ziegler's "Beiträge" contains eight papers—all of very considerable interest. In the first Dr. W. Podwyssozki, jun., continues his observations on the Regenerative Processes in Glandular Tissues. In a former number he studied these processes in the liver; now he deals with the repair of injuries in the kidneys, Meibomian glands, and salivary glands.

The experiments on the kidney were made on rats, rabbits, and guinea pigs. In rats the processes of repair were most intense and rapid, in rabbits least so; but in essence the phenomena did not differ in the different animals.

The first changes were noticed in the epithelium of the tubes—chiefly of the convoluted tubes—and consisted in enlargement of the nuclei and increase of chromatin, followed by all the phenomena of mitosis. This epithelial multiplication and the accompanying hyperæmia, were not limited to the immediate neighbourhood of the injury, but extended to a considerable distance. Contrary to what has been observed in hæmatogenous nephritis and other such diseases, the endothelium of the capillaries did not present evidence of proliferation. The epithelial growth lasted from two to twenty-five days, according to the severity of the injury and the kind of animal on which the experiment was made. As to the cause of the proliferation, the author thinks that it is due to two factors—firstly, the diminution of resistance on the part of the connective-tissue and of the neighbouring epithelial cells, which have undergone necrosis and desquamation; and, secondly, to a chemical irritation caused by the necrotic tissues. It is not very clear why, under the influence of the injury, some cells die, while others proliferate. It is only where the proliferation of epithelium leads to the replacement of elements which have been lost or destroyed that we can speak of the process as regenerative. Under other circumstances it should be called numerical hypertrophy or hyperplasia. This gives rise to the formation of epithelial giant cells, which subsequently undergo a regressive metamorphosis. By the true regenerative processes in the epithelium the cells which are killed are replaced, and, owing to the enlargement of the tubes, a bulging and extension of them into the soft, newly-formed connective-tissue

occurs; but a new formation of tubes or of glomeruli does not take place.

A study of the regenerative processes in the Meibomian glands was of interest, as it promised to throw some light on the formation of chalazion and on that of the rare adenoma of the Meibomian glands. The experiments were made on rabbits. The glands were injured by section on the deep surface of the eyelid. It was found that the regenerative reaction of the epithelium occurred promptly and was soon ended. It gave rise to multiplication of nuclei and cells by a typical process of mitosis. The proliferation was limited to the peripheral zone of the alveoli, and was not of any very great extent. It was noticed that the growing glandular epithelium advanced along the line of the wound—a path of feeble resistance—until it came into contact with the epithelium of the mucous surface of the lid, and appeared to take part in the repair of the epithelium of the latter.

Experiments on the salivary glands were made on rabbits. Incision and excisions of limited portions of the submaxillary and infraorbital glands were undertaken, with strict antiseptic precautions. Enlargement of nuclei of epithelium, increase of chromatin, mitosis leading to regeneration of the destroyed epithelium followed. This lasted only about five or six days, and was succeeded by an active growth of the epithelium in the smaller ducts, which gave rise partly to newly-formed glandular alveoli (similar to what had been found in the liver) and partly to masses of epithelium which subsequently underwent degeneration. This paper is illustrated by four coloured plates of great beauty.

The second paper, by Dr. E. Coen, is on the Changes produced in the Skin by the application of Tincture of Iodine. The observations were made on men (application of iodine to healthy skin of parts about to be amputated), rabbits, and guinea pigs. The application causes an acute inflammation affecting the epidermis and deeper parts to a degree depending on the severity of the application and the delicacy of the skin. This inflammation shows itself by necrotic and regenerative changes. Of the former the chief is the formation of vesicles in the epidermis, which are formed in the way described by Ziegler, and familiar to all readers of his Handbook. Surrounding the vesicles the epidermic cells undergo indirect proliferation, which leads to a regeneration of those cells which die. The regenerative process extends to the hair sacs, sebaceous and sweat glands. In the cutis and subcutaneous tissue a new forma-

tion of connective-tissue occurs. This is developed partly from the pre-existing elements of the connective-tissue, partly from the endothelium of the small blood-vessels, and partly from emigrated leucocytes. Of these latter the greater number show several nuclei, which have arisen not by mitosis, but by fragmentation. These multinuclear cells degenerate and disappear. But there is a certain number of leucocytes whose nuclei do not undergo fragmentation. These persist and take part in the formation of the new connective-tissue. In the early days of the inflammation large numbers of so-called *Maetzellen* are found in the skin. They are round, oval, flat, or spindle-shaped, and contain granules which stain deeply in saffranin, gentian violet, &c. They are probably cells which have taken up granules resulting from the destruction of leucocytes. They are not to be looked on as degenerative products, but as evidences of great activity. To this paper are appended two admirable coloured plates, containing 16 figures.

The third paper, by Professor Ziegler, is on a Case of Amaurosis following Hæmorrhage. It begins by a complete history of the views which have been held as to the cause of the blindness which not infrequently follows severe bleeding, and which often is permanent. Ziegler's case was that of a woman, aged fifty-one, who had suffered for a long time from gastric symptoms, and had frequently vomited blood, and had had hæmorrhage from the bowels. On the 11th April she had a severe hæmorrhage from the intestine. This was repeated on the 12th. Three days later her sight failed in both eyes, and within a few hours she was blind. Six days later it was found that the outlines of the discs were obscured, the surrounding parts whitish and cloudy, the arteries contracted, the veins tortuous; on the right side a small retinal hæmorrhage. Twenty-three days after the supervention of the blindness death took place from a recurrence of the hæmorrhage. On *post-mortem* examination a duodenal ulcer was found, which had perforated the arteria gastro-epiploica dextra. To the naked eye the optic nerves appeared normal, but on microscopic examination the orbital part was found in a condition of extreme fatty degeneration. This was most prominent at the lamina cribrosa. The two inner layers of the retina were also in a condition of fatty degeneration, most advanced near the optic entrance. Inflammatory changes were absent. Ziegler looks on this degeneration as due to ischæmia, depending on the diminution of the total quantity of blood in the body, combined with arterial spasm.

He compares it with ischæmic degeneration in the brain or heart, and looks upon the blindness as being of the same kind as that which follows embolism of the central artery of the retina, or ligature of the carotid, and as being probably analogous to the disturbances of vision which have been observed to follow the administration of quinine, salicylic acid, and lead.

The fourth paper, by Dr. C. Nauwerck, is on Softening of the Spinal Cord, which is usually described as transverse myelitis. A case is recorded of a young woman, who died three months after the occurrence of paraplegia, in consequence not of the spinal disease, but of a severe burn which she received when taking a hot bath. A detailed account is given of the naked eye appearances of the cord and of the results of the microscopic examination. It is shown that the affection is not inflammatory, but due to ischæmic necrosis. In the present instance this was caused by an obstruction of the vessels, depending on arteritis and hyaline thrombosis. The origin of the vascular disease is sought in a severe typhoid fever from which the patient had suffered three years before her death.

In a paper on the Normal and Pathological Histology of the Mammary Gland, Dr. E. Coen states that while in the normal resting mamma the evidences of proliferation of epithelium are slight or altogether absent, in the secreting gland there are manifest signs of indirect division of the cells of the acini. He concludes, therefore, that the colostrum corpuscles and the milk globules are derived from cast-off epithelial cells, which have undergone fatty degeneration. He also describes the change in the mammary gland in cases of mastitis and those which are observed after injuries experimentally inflicted. His paper is illustrated by a well-executed coloured plate.

In the sixth paper Dr. Dening describes two cases of Formation of Bone in the Mucous Membrane of the Trachea.

The seventh paper, by Dr. E. Coen, gives the results of a series of experiments made on rabbits and guinea pigs, in order to determine more accurately than has hitherto been done the processes by which the healing of punctured wounds of the brain is accomplished. It was found that a true regeneration of nervous tissue does not take place; the new tissue which takes the place of that which was destroyed contains no nerve elements. It is true that soon after the injury the ganglion cells multiply actively by a process of indirect nuclear division, but this multiplication soon

ceases, before the proper healing process has well begun. The newly-formed tissue does not advance beyond the stage of connective-tissue, and forms, consequently, a scar, in the true sense of the word. This paper is illustrated by two folded plates, containing twelve figures, mostly coloured.

The last paper, by Dr. J. Sudakewitsch, is the first instalment of a work on the Histological Alterations of the Nervous System in Leprosy. This subject has been much neglected hitherto, and the work of Dr. Sudakewitsch promises to be a valuable contribution to our knowledge of the important disease of which it treats. In the present article he speaks only of the changes which he has observed in the Gasserian, intervertebral, and upper cervical ganglia.

In the Gasserian and intervertebral ganglia the connective-tissue and blood-vessels showed no important changes. The capsule of the ganglion cells was thickened, and the endothelial lining had undergone proliferation, which caused compression and deformity of the nerve cells. The nerve cells were—some diminished in size, some enlarged; their protoplasm was cloudy and homogeneous, and of a peculiar abnormal lustre, with sharply defined edges, pointing to a condition allied to sclerosis. They stained feebly in logwood or carmine, but deeply in saffranin. In some cases the cells had an appearance as if eaten away, and were commonly vacuolated. The nuclei were homogeneous, had no nucleoli; some were shrivelled and angular. The pigment in the cells was irregular in quantity and distribution. In many cases the pigment grains were greatly reduced in size, and the smaller vacuoles in the cells were due to this shrinking of the pigment grains. The cells commonly contained lepra bacilli, whose number was in inverse proportion to the quantity of pigment. It seemed that the bacilli caused the destruction of the pigment grains. In the cervical ganglia the alterations in the nerve cells were much less marked. The bacilli were fewer and occupied fewer cells than in the ganglia of the first kind. The connective-tissue was abundant and in places accumulations of granulation elements occurred. They resembled leucocytes—giant cells were not present—bacilli were seen partly in, partly between, the cells. For the discussion of the different questions raised by these appearances we must refer to the work itself. Two good plates illustrate this paper.

From the short notice we have given, our readers will see how full this volume is of interesting and valuable matter.

Anæmia. By Frederick P. Henry, M.D. Philadelphia: Blakiston. 1887. Pp. 136.

After an introduction, and a short description of the methods to be employed in microscopical examination of the blood, the author treats firstly of anæmia in general. By anæmia he understands that condition in which the colouring matter of the blood is deficient, and which is usually, although not always, associated with a diminution in the number of the red corpuscles. Having described the causes, symptoms, anatomical characters of this condition, and discussed its diagnosis, prognosis, and treatment, he proceeds to the consideration of the different varieties of anæmia. These are taken under four heads:—1, Primary, or essential anæmias; 2, Secondary, or symptomatic anæmias; 3, Toxanæmias, or anæmias due to poisons, as lead, arsenic, &c.; and 4, Parasitic anæmias, as that due to the ankylostomum duodenale.

The position taken as regards the distinction between primary and secondary anæmia will be made clear from the following passage:—

"By essential anæmia I mean those forms of the affection that are associated with disease of the cytogenetic organs, or with congenital malformation of the vascular system—namely, the lymphatic, splenic, and medullary anæmiæ and chlorosis; and by symptomatic anæmia those forms of the disease associated with affections of non-cytogenetic organs which interfere with nutrition—such as febrile anæmia, the anæmia of phthisis, cancer, Bright's disease, the anæmia of heart disease, the anæmia of lead-poisoning and of inanition. Malarial and syphilitic anæmia occupy the border line between the two classes. When recent and dependent upon an acute attack, they may come under the head of febrile anæmia; but when chronic, they are frequently essential—the one generally of the splenic, the other of the lymphatic variety. These afford interesting examples of the conversion of a symptomatic into an essential anæmia, and it is held by the writer to be highly probable that they are not the only instances of such conversion."

The secondary, toxic, and parasitic forms of anæmia are dismissed in a few pages at the end of the volume, while considerable space is devoted to the primary or essential forms. Special sections are given to chlorosis, Hodgkin's disease, leucocythæmia, anæmia splenica, and pernicious anæmia. We would particularly direct attention to the description of splenic anæmia as being more complete than is usually to be found in text-books or cyclopædias.

Dr. Henry admits only two forms of leucocythæmia—the splenic and the medullary. He looks on the so-called lymphatic variety as being either secondary to the splenic form, or as being really lymphatic anæmia, or Hodgkin's disease. His opinion on the subject of pernicious anæmia is somewhat peculiar. He does not regard this condition as an independent disease due to the operation of a special cause, but as being produced by the prolonged operation of the ordinary causes of anæmia. A case of anæmia becomes pernicious when certain changes occur in the blood, when the red corpuscles become variable in shape and size, more particularly when the large, more or less oval, and sometimes nucleated corpuscles are seen. This condition is looked on as a reversion of the human blood corpuscles to the type of that found in the ovipara. The changes in the marrow of the bones may be altogether absent; and, when present, they are not primary, or peculiar to pernicious anæmia. As regards prognosis: "When the cause is known and removable, the prognosis is good; when known and not removable, it is hopeless; when unknown, it is doubtful."

We think this book will be found useful, particularly to students and junior practitioners. It gives, so far as we know, the best systematic account of anæmia which is to be found in our language.

The Transactions of the Medico-Chirurgical Society of Edinburgh. Vol. V. New Series. Sessions 1885-86. Edinburgh: Oliver & Boyd. 1886. Pp. 219.

If we are somewhat late in noticing this volume of the Medico-Chirurgical Society's Transactions, it is not through failure to appreciate the interest and value of its contents. A society which numbers as ordinary members more than two hundred Edinburgh practitioners could scarcely fail, and has not failed, to produce an excellent serial volume, especially when it includes the Address of the retiring President and full reports of the discussions which followed the reading of the more important papers. Dr. Littlejohn, in his Valedictory Address, confines himself to his own specialty, State Medicine, and handles some topics in connection with Medical Jurisprudence and Public Health which interest ourselves nearly, no less than those whom he addressed. For instance, he condemns the unpractical manner in which the former subject is taught in medical schools. In too many cases the teacher, instead of "being

practically conversant with the subject matter of his lectures," prepares "a digest of some of the more popular text-books." The student is not "brought face to face with the facts of the science in the presence of his teacher, who ought to have the opportunity of demonstrating them on the dead or living body." He suggests as a remedy that the lecturer in medical jurisprudence should be officially connected with the criminal authorities, as police-surgeon or otherwise. Again, on the subject of notification of infectious disease, he states that the system has been most successfully worked in Edinburgh, where, from Nov., 1879, to Nov., 1885, 29,000 notifications were sent in by the practitioners of the city and surrounding districts, for which they received as remuneration from the Town Council £4,000. As there is still serious difference of opinion in the profession on this question, we quote Dr. Littlejohn's concluding remarks on the working of the system in Edinburgh, where it has been fairly tried, and has been most successful:—

"This system of notification has been attended with such marked success, mainly by the cordial assistance afforded by my professional brethren; and also, it must be allowed, in consequence of the recognition, inadequate though it may appear, by the municipality of the value of their services. It was my duty, as the medical adviser of the Corporation, to insist upon some recognition, and I am bound to state that my representations were at once given effect to; and so important has the system of notification appeared to the municipality, and so necessary for the maintenance of the reputation of our city as one of the healthiest in the country, that the medical grant has always been most cheerfully paid by the ratepayers, and no grumble has ever been made, even in these, for all classes of society, economizing and unpropitious times. This is a sufficient answer to those of our English or Scotch brethren who, failing to recognize the importance of early intimation of infectious disease, and refusing to avail themselves of our northern experience, obstinately shut their eyes to the advantages of this important measure. Since the system was boldly inaugurated in Edinburgh, all the evils that were prophesied by gentlemen, regarded as leading authorities in sanitary science, have by our experience been proved to be groundless; and my presence here, in the distinguished position of your President and the influential audience I have the honour to address, conclusively prove that notification of infectious disease is no sham, but an accomplished fact; and that it can be carried out in a large city, and in the midst of a powerful Medical School, without the slightest infringement of medical etiquette, and in such a manner as to secure the cordial co-operation of every member of our profession."

Our space will not be wasted if we transcribe another passage—though a long one—from Dr. Littlejohn's Address, relating to danger arising from small-pox hospitals. In 1871, a severe epidemic of the disease broke out in Edinburgh. In a few days more than 300 cases were under treatment in an improvised building, imperfectly inclosed, admitting free access on all sides.

"The inhabitants in the immediate neighbourhood were naturally alarmed. Another large school—Heriot's Hospital—was separated only by a thoroughfare from the small-pox hospital; almost as near we had George-square, inhabited by highly-respectable citizens; and, as I have mentioned, a busy thoroughfare formed the northern boundary, while to the south there was a favourite walking resort of the inhabitants. A more crucial test to determine the distance to which the germs of small-pox could be carried through the atmosphere can hardly be imagined; and yet in not a single case was the disease propagated from the hospital to the neighbouring houses. Not a whisper of suspicion was ever heard that this hospital acted as a centre of infection to any portion of the citizens. Its neighbourhood enjoyed an unusual immunity from the disease; and as the ratepayers were on the alert, and Edinburgh has an active local press, in which the citizens find ample space to ventilate their grievances, I am sure you will agree with me that had any case been traceable to proximity to the hospital the public and the authorities would have quickly heard of it. This remarkable immunity . . . was effected by a very simple arrangement. The hospital was regarded as an infected and highly dangerous place, and was, therefore, subjected to a rigorous but easily arranged system of quarantine. The assistance of the police was obtained, and a special set of officers—both in uniform and as detectives—was told off to watch the building, by night and by day. Our daily experience showed us how easily, under ordinary precautions, small-pox hospitals become centres of infection to the neighbourhoods in which they are placed. The anxiety of convalescents to communicate with the outside world, the determination of relatives and friends to maintain correspondence with patients and nurses are such that special means of precaution must be employed. This, as our experience showed, can only be satisfactorily accomplished with the assistance of the police."

We cannot pass over without notice a suggestion made by Dr. John Duncan—to re-infuse blood lost during operations in cases where ordinary transfusion (as at night) is impracticable. He gives an instance of successful employment of this expedient. Three ounces of blood, lost during an amputation of the thigh, with phosphate of sodium dissolved in distilled water to about eight ounces,

were injected into the femoral vein on the face of the stump with the best results.

Probably the meeting of February 17th, 1886, was the most interesting of the Session to the members, as it certainly is to us. Mr. Lawson Tait introduced a discussion on Abdominal Section, and gave, in his well-known trenchant style, the history of the growth of professional opinion and practice in this department of surgery, from the days when Professor Miller defined abdominal surgery as "abominable surgery," to our own time, when the successful labours of Keith and Spencer Wells, and Baker Brown, and Clay, and, last not least, of Lawson Tait, have brought it to its present position of established strength.

The Physiological Effects of Artificial Sleep, with some Notes on the Treatment by Suggestion. By Dr. Mathias Roth. London: Baillière, Tindall, and Cox. 1887. Pp. 39.

In this pamphlet Dr. Roth describes the means of inducing the different forms of hypnotism, and gives the phenomena observed in persons who are in the lethargic, cataleptic, or somnambulistic condition; also an account of the peculiar state described by Dr. Bremaud as fascination. He then quotes numerous instances of cures of various diseased conditions which have been effected by mesmerism of one kind or other. The most of these are from French sources, and concern hysterical women. Dr. Roth professes himself to have frequently employed hypnotism with success as a therapeutic agent, and makes some suggestions as to its application. The paper is readable, although we confess we feel somewhat sceptical as to the truth of some of the extraordinary cases recorded, our belief in the *bona fides* of hysterical women being rather limited.

Nervous Diseases and their Diagnosis: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with especial reference to the recognition of their Causes. By H. C. Wood, M.D., LL.D. Philadelphia: Lippincott. 1887. Pp. 501.

The chief characteristic of this work seems to be that more space than usual is given to the symptoms of nervous disturbances and to their immediate causes, and less to the pathology and pathological anatomy which lie at the bottom of the morbid conditions.

Whether this is an improvement on the ordinary method of treating diseases of the nervous system must be left to the judgment of the numerous readers which any book written by Dr. Wood is sure to have. The arrangement of the subject is altogether symptomological, and not, as is customary, pathological. Thus, after a short introduction, we have chapters on Paralysis, Motor Excitements, Reflexes, Disturbances of Equilibration, Trophic Lesions, Sensory Paralysis, Exaltations of Sensibility, Disturbances of the Special Senses, Disorders of Memory and Consciousness, Disorders of Consciousness, and Disturbance of Intellection. Under these headings all the disturbances of the nervous system are treated. The descriptions are short, but pointed and accurate, as was to be expected from the author. The book is one which, even among the numerous excellent works, new and old, which deal with the same subject, cannot fail to occupy a distinguished position.

Year-Book of the Scientific and Learned Societies of Great Britain and Ireland; comprising Lists of the Papers read during 1886 *before Societies engaged in Fourteen Departments of Research, with the Names of the Authors.* Compiled from Official Sources. Fourth Annual Issue. London: Charles Griffin & Co. 1887. Pp. 323.

This excellent periodical has now settled down into its permanent shape; and this, its fourth issue, admirably fulfils its three-fold object—supplying an account of the year's scientific work, a record of progress, and a handbook of reference. We are glad to be able to infer from the preface that the Year-Book is appreciated by the scientific world, and we wish it continued success. Copies of the first issue are still obtainable, containing a full account of the history, &c., of the Societies—British, Irish, and Foreign. We observe that the dates of foundation of the Societies are not always supplied; as, for instance, in the case of the Royal Dublin Society—whose *late* President, moreover, is given as Duke of *Leicester*. We note also that the scientific proceedings of this Society are "blown out" by the inclusion of twelve papers read before the Royal Geological Society of Ireland, and duly enumerated under the latter head also. The Index contains over 880 names of scientific institutions (without reduction on account of cross-references), but

of these about 250—with the same qualification—are names only; the addresses of the Societies being unknown, or their officers having declined to respond to the editor's request for information.

Vaso-renal Change versus *Bright's Disease.* By J. Milner Fothergill, M.D., &c., &c. London: Baillière, Tindall, and Cox. 1887. Pp. 219.

The object of this book is to show that what is commonly known as Bright's disease is not primarily a disease of the kidneys, but is an abnormal condition of the blood, which causes a number of changes in different parts, among them the kidneys. The following quotation will represent in some degree the author's theory:—

"The present position of our knowledge on this subject is about this:—

"A waste-laden condition of blood causes contraction of the tiny arterioles, producing high arterial tension. This, in turn, leads to enlargement of the left ventricle. The sustained high arterial tension sets up atheromatous change in the arterial wall; and from this spring a number of maladies. Spasm of the arterioles gives *angina pectoris vaso motoria.* The enlarged heart is liable to secondary valvular change—the result of strain upon the valves; while the blood, laden with waste or excrementitious matter, possesses distinct toxic properties, giving us gout in all its protean forms, secondary inflammations of serous membranes, bronchitis, and skin affections. Lithæmia and uræmia are part of the troubles occasioned by the blood change. The growth of connective-tissue at the expense of the other structures of the kidneys in time works their ruin, giving us intestinal (*sic*) nephritis, and with it what Sir Andrew Clarke terms 'renal inadequacy;' while albuminuria and glycosuria are not uncommonly found. Ultimately there is heart-failure, and death."

Our readers will, however, be gratified to learn that Dr. Fothergill disclaims any intention to disparage the work of Dr. Bright.

It is not our intention to follow Dr. Fothergill in his theorising, for we cannot call it argument. Those who are acquainted with the other works of the same author will find this neither better nor worse than its predecessors. It displays the same ignorance and disregard of the best-established facts of experimental pathology and physiology, and the same imperfect acquaintance with the most ordinary teachings of pathological anatomy that characterise his other books. That gouty persons frequently suffer from chronic

renal disease is unquestionable, but it is equally unquestionable that all persons who have chronic interstitial nephritis are not examples of gout "in its protean forms;" for there are many irritants besides uric acid which reach the kidneys by the blood and excite in them chronic diffuse inflammation. How easily Dr. Fothergill makes facts suit his theories is seen in his idea that the supposed formation of uric acid in gouty persons is due to a reversion of their livers to the more primitive condition met with in reptiles and birds; while the evident objection that animals still lower than the sauropsidæ, such as the naked amphibia and fishes, secrete fluid urine containing urea, is quietly disposed of by saying that this is "a sort of shadow thrown forward by the future change." Indeed, the author seems incapable of seeing any difficulty in his way. A complete refutation of his so-called depurative theory, by Dr. Mott, is printed without the smallest attempt to meet the objections brought forward.

On the whole, we think that works of this class are not calculated to advance medical knowledge in any true sense of the word, or to raise the reputation of medical writers in the eyes of truly scientific men.

CARBOLIC ACID POISONING.

Dr. Wallace A. Briggs, Sacramento, California, reports a case of poisoning resulting from the use of a vaginal injection consisting of a teaspoonful of carbolic acid dissolved in one pint of hot water. "About twelve ounces of the solution had been injected when the patient abruptly exclaimed, 'I feel faint.' Then placing her hand over the region of the uterus, she continued, 'I am burning up here.' Her face was livid; her respiration immediately became laboured; slight muscular tremor set in; death seemed imminent." When seen by Dr. Briggs the patient's breathing was stertorous (10 to the minute); skin clammy and cold; pulse, at the wrist, scarcely perceptible; heart sounds barely audible; reflexes abolished, and the temperature subnormal. The treatment consisted in the subcutaneous injection of whisky and the application of hot water bottles to the feet and each side of the body. Five and a quarter hours after she was first seen, "slight evidences of dawning consciousness" appeared, and eight days after the accident, February the 7th, "patient swallows for the first time." On the 10th of March, after 39 days' illness, Dr. Briggs reports: "Complete restoration seems probable in the near future."—*The Sacramento Medical Times*, April, 1887.

PART III.

HALF-YEARLY REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.

By Ringrose Atkins, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

(*Concluded from page 248.*)

III. NEURO-PATHOLOGY AND PATHOLOGICAL ANATOMY.

Peripheral Neuritis.—A very interesting contribution to our knowledge of peripheral neuritis in tabetic patients is found in the *Revue de Médecine*, No. 7, July 10, 1886, by Pitrès and Vaillard. The conclusions arrived at may be summed up as follows:—

1. The peripheral nerves of tabetic patients are often the seat of neuritis.

2. The neuritis of tabetic patients does not differ in any essential respect from other forms of the non-traumatic affection.

3. Their topographical distribution in the body is variable, for the neuritis may attack the sensitive and mixed nerves and the visceral.

4. In the majority of cases, but not always, the disease begins at the outer extremity of the nerve.

5. Their extent and gravity have no constant relation in respect of age or the extension or depth of the medullary regions of the locomotor ataxia.

6. It is probable they do not play any part in the production of the specific symptoms of tabes, such as the lightning pains, incoordination of movements, abolition of patellar reflex, disorders of the muscular sense, &c. These latter symptoms depend rather upon the condition of the posterior columns of the cord.

7. Certain inconstant symptoms, however, which are added to or complicate the symptomatology of tabes appear to depend upon the peripheral neuritis—such, for example, as anæsthetic spots in the skin, localised trophic disease of the skin and its dependencies, or certain localised motor paralyses, accompanied or not by muscular

atrophy, isolated joint affections, visceral crises, &c.—*Alienist and Neurologist.*

In the April, 1887, issue of *Brain*, Dr. Pierson, of Dresden, publishes a paper on "Some Recent Observations on Peripheral Neuritis." Since the publication of Leyden's paper on "Poliomyelitis and Neuritis" in 1880, which was founded on some observations made by Duménil, Eichhorst, and Leyden himself, the number of cases of peripheral (multiple) neuritis related by different authors has become so considerable that we must necessarily abstain (he says) from attempting an exhaustive review of the entire literature of the subject; we shall try, however, to give a general survey of the question as it appears in some more elaborate works of recent date. To begin with English works, Buzzard's monograph on "Some Forms of Paralysis from Peripheral Neuritis" treats the subject with all the accuracy and thoroughness that characterises this writer. The little book is divided into three lectures, the first of which contains a more general account of the various forms of neuritis, such as localised forms of neuritis (traumatic, rheumatic); typical (multiple) neuritis; alcoholic, diphtheritic, syphilitic neuritis; neuritis from gout; endemic neuritis (kakké or beri-beri). Dr. Buzzard justly insists upon the importance of a thorough examination of the electrical reactions where in all cases the presence of neuritis must be kept in view, and he shows in several instances the diagnostic value of this investigation. It is interesting to find here the statement that a most precise description of typical multiple neuritis (observed in Paris) has been given forty years ago by Graves in his "Clinical Medicine." He also states that the French pathologists "searched anxiously in the nervous centres for the cause of this strange disorder, but could find none. There was no evident lesion, functional or organic, discernable in the brain, cerebellum, or spinal marrow." In the second lecture we find an accurate description of the causes, symptoms, and anatomy of multiple neuritis, more especially the alcoholic and endemic forms of this disease. Dr. Buzzard believes that Déjerine's cases of "névro-tabes périphérique" must be considered as specimens of alcoholic neuritis, and he points out the difficulty which may occur concerning the distinction of such cases if ataxy, impaired sensibility, pains, absence of knee jerk, &c., form real tabes. The third lecture is devoted to the rarer forms of multiple neuritis which sometimes occur after enteric fevers, dengue, and malarias, and the well-known diphtheritic paralysis, which Dr. Buzzard considers to

be due in most cases to multiple neuritis. Then follow some valuable hints about the diagnosis and prognosis of the different forms of polyneuritis, to which are added directions for the treatment of the disease.

Of the great number of articles on neuritis published in archives and journals, only a few can be mentioned. Roger (*l'Encéphale*, 1885) gives a survey of a considerable number of cases observed by several authors, adding a case of his own. This author attempts to identify Landry's acute spinal paralysis with Duchenne's "paralysie ascendante subaiguë." He says that in the former the progress of the disease is too rapid to allow the development of muscular atrophy. The absence of sensitive troubles in these cases, as in Duchenne's disease, he considers as unimportant for the diagnosis, and he distinguishes, therefore, two forms of subacute polyneuritis according to the presence or absence of sensitive troubles. We do not think that the present state of our knowledge justifies this statement. Though since Duchenne's, Landry's, Westphal's, &c., publications on the subjects, the microscopical anatomy of the nervous centres has made considerable advances, this question may not yet be decided. From the clinical standpoint, sensory symptoms are essential for the diagnosis of neuritis, and the mere fact that in some cases of Landry's paralysis no alterations of the spine and brain have been found, it is not sufficient to make us look upon them as specimens of polyneuritis. An observation published by Strümpell and Möbius (*Münchener med. Wochenschrift*, 1886) deserves special attention, because it proves the existence of exaggeration of the tendon reflexes in peripheral neuritis. Buzzard, too, has noticed this symptom in cases of alcoholic neuritis. The authors found in two cases exaggerated tendon reflexes in both arms and legs in connection with muscular atrophy, partial reaction of degeneration, and other indubitable symptoms of polyneuritis. As the patients began to recover, the tendon reflexes became generally normal. Strümpell and Möbius are inclined to explain this phenomenon by assuming a state of increased irritability in the sensory nerves of the muscles and their neighbourhood. This is the more probable, as in both cases other sensory troubles, pain, anæsthesia, &c., were most prominent symptoms.

A great number of authors have written on this interesting form of neuritis, which is not uncommonly observed in intemperate individuals. As a most accurate and elaborate essay on the subject,

Prof. Bernhardt's paper "On the Multiple Neuritis of Alcoholism" (*Zeitschrift für klin. Med.*, 1886) must be mentioned. After describing a characteristic case of his observation, Bernhardt gives a detailed account of a considerable series of cases, mentioning more especially the articles of Rich, Schulz, Strümpell, Müller, and Moeli. The author then describes the recent observations of alcoholic ataxy, or "pseudo-tabes," and their relation to tabes dorsalis. Finally, he treats the differential diagnosis of multiple neuritis, tabes, subacute poliomyelitis, and Landry's paralysis. When Bernhardt, quoting the well-known cases of Eichhorst, Roth, and Broadbent, says that we are entitled to state that after abuse of alcohol there has been observed a form of paralysis rapidly ending in death, and likely to make the impression of Landry's paralysis, even upon an experienced observer, it cannot be denied that this is so, but it cannot be admitted that this form of paralysis has been proved to be dependent on multiple neuritis until this will have been shown by *post-mortem* examination of the peripheral nerves in a case of this kind. Francatte (*Revue de Médecine*, May, 1886) has observed four cases of multiple neuritis, two of which ended fatally. One of them was that of a patient suffering from pulmonary consumption; in the other case there was no cause at all to be found. Microscopical examination showed in both cases that there was degenerative atrophy of the nervous substance more developed in the peripheral parts, the anterior roots and the spinal cord being perfectly normal. The two other cases recovered—one of the patients was a drunkard, the other a prostitute—had no symptoms of syphilis. Kast, of Freiburg, has published a very interesting article in the *Archiv für klin. med.* One of his cases is remarkable for its ætiology. The patient, a girl thirteen years of age, having had a very slight sore throat, which was followed by paresis of accommodation, ataxy, first of the arms, afterwards of the legs, impairment of tactile sensibility, shooting pains; then ensued atrophic paralysis of the interossei and of the tongue, with reaction of degeneration, loss of tendon reflexes, bulbar symptoms. Death nine months after the beginning of the disease. Multiple degeneration of peripheral, spinal, and cervical nerves; brain and cord normal. The second one was a man of intemperate habits. The symptoms of multiple neuritis were combined with swelling of several joints. The patient recovered partially. Kast considers this polyarthritis as a symptom of polyneuritis, and agrees in this respect with Strümpell. There is a considerable number of cases

on record in which painful swelling of joints occurred either in the course of multiple neuritis or preceded the latter. Two observations of this kind have been made in 1883 by Boeck, of Christiania. One of them was combined with purpura rheumatica. Boeck suggested that this latter symptom, as well as the swelling of the joints, is due to an affection of the vaso-motor nerves, caused by the same infectious agent which produces the neuritic process in the motor and sensory nerve fibres. This explanation would be apt to account for those cases where the symptoms of acute polyarthritis seemed to appear as it were alternately with polyneuritis, as it was observed by Grocco and Fusari (*Annal. Univers. di Med. e. Chirurg.*, 1885), and several other authors. Finally, it may be added that the statement first made by Baelz and Scheube, that the endemic disease of beri-beri, or kakké, is due to multiple peripheral neuritis, has been confirmed by Tscholowski, of St. Petersburg, who examined *post mortem* several cases of this disease, and found well-marked degenerative atrophy of peripheral nerves, together with slight atrophy of some ganglion cells in the lumbar region of the cord, which latter alteration he is inclined to consider as a secondary occurrence. In the *Zeitschrift für klin. Med.*, Vol. XI., 1886, Dr. H. Oppenheim publishes a contribution to the "Pathology of Multiple Neuritis and Alcoholic Paralysis." It consists of six cases of multiple neuritis—one occurring in a tuberculous patient, and five in chronic alcoholics. The first case is by far the most interesting, for it shows that spinal cord lesions and multiple neuritis may coexist in the same individual. The author's *resumé* of this case is as follows:—A stonecutter, aged forty, was struck down with weakness of both lower extremities, paralysis increased rapidly, and, when taken into hospital, two months after initial symptoms, he was unable to stand or walk; the paralysed muscles were atrophied, the electrical reactions were altered quantitatively in all the paralysed muscles, and there was reaction of degeneration in the tibialis anticus and adductor magnus; the knee jerk was abolished on both sides; the patient complains of all sorts of disturbances of sensation; there were no objective sensory disturbances, except that he does not quite appreciate the position of the foot and toes; there is pain along the nerve tracts; no disturbances of bladder or rectum; the patient is apathetic, and his memory weak; the cranial nerves are not involved, except that the pupils react sluggishly; there is pulmonary tuberculosis. Death ensues five months after the onset of the disease. The autopsy

revealed, among other things—atrophy of muscles (particularly those of lower extremities), pulmonary tuberculosis, atrophy of cerebral cortex; nerves of lower extremities had undergone considerable degeneration; the muscular nerve fibres in particular exhibited these changes—viz., atrophy of the nerve fibres and only very slight interstitial changes; the spinal cord was healthy throughout, with the exception of a very small focus of disease in the upper portion of the lumbar segments, effecting marked atrophy of the right anterior horn; partial degeneration of anterior and posterior roots, and a very trifling increase of connective tissue in the posterior columns at the same level. The author decides that the symptoms observed during life cannot be referred to the spinal cord lesion. He holds to the view that any toxic agent may affect several portions of the central nervous system at one and the same time. In the case under consideration it is a fair question whether the multiple neuritis is to be put to the account of the tubercular diathesis alone, or whether alcoholism was a potent factor in this as in other cases reported by the author. The five distinctly alcoholic cases add but little new to our knowledge of multiple neuritis, though they are all well discussed. In several cases the differential diagnosis had to be made between tabes dorsalis and multiple neuritis. In case six the difficulty was greatest, for, in addition to other symptoms, the pupils reacted imperfectly. Oppenheim's cases are in entire accord with Gower's opinion that alcoholic neuritis is most frequently located in the lower extremities. It is difficult to determine in advance the duration of alcoholic neuritis; the prognosis is favourable if the alcohol be discontinued. Oppenheim recommends warm baths and galvanism in the later stages of the disease.

The Psychical Symptoms in Alcoholic Paralysis, and Multiple Neuritis.—Korsakow (*Neurol. Centralbl.* No. 9, 1887) records twenty cases of alcoholic paralysis dependent upon multiple neuritis, in which marked psychical disturbance was noticed. He distinguishes three forms of mental aberration quite distinct from each other. In the first form the mental change was chiefly characterised by irritable weakness. The patients were uneasy, irritable, excitable, discontented with everything and everyone, and were thrown into fits of crying or of rage by the slightest opposition to their whims. They were sleepless and very restless. In the second form a true confusion of ideas began simultaneously with the sensory and motor disturbances. The patients did not recognise

their surroundings or attendants, and were subject to hallucinations and illusions—especially of sight—and even occasionally to delusions of persecution. In the third form there developed a very great disturbance of memory—especially of occurrences during the illness of the patient. There was little disturbance of consciousness, and no pathological affection of the emotions in this form. During its progress, however, a gradual diminution of mental power supervened almost to the degree of imbecility, though throughout the weakness of memory was the most noticeable feature. With the gradual subsidence of the motor and sensory symptoms the mental powers returned. In the second part of this paper the author describes four cases of multiple neuritis, not of alcoholic origin, in which psychical as well as nervous symptoms occurred. In three of these the affection followed some disease of the pelvic organs in females—in one, after a miscarriage; in a second, after puerperal parametritis; and in the third, after a febrile disease of the pelvic viscera. The author is inclined to explain these on the theory of septic infection, and considers the connection of the neuritis and psychical symptoms as by no means accidental, since it has been noted by other authors. He terms these forms of psychical disturbance "neuritic psychoses." He believes that a given poison or infection affects both the brain and the peripheral nervous system, and supports this theory by citing the similar well-known effects produced by lead, arsenic, and bisulphide of carbon.

Puerperal Neuritis.—P. J. Möbius (*Münchener med. Wochenschr.*, No. 9, 1887) describes a number of cases of a peculiar kind, to which he gives the name of "puerperal neuritis." As diphtheria and syphilis, and as lead and other poisons are capable of producing neuritis, whose chief symptom is a motor paralysis in certain groups of muscles, so, according to Möbius, a certain form of neuritis is liable to develop after childbirth, and as a sequel to puerperal diseases. Its symptoms are both sensory and motor. Its location is in the ulnar or median nerves of the arms, or sometimes in both together. The disease begins gradually with shooting pains in the hands, which increase to constant pain and paræsthesiæ. Occasionally spasms of the muscles ensue, and frequently atrophy of the thenar eminence; and reaction of degeneration in the muscles, supplied by the median and ulnar nerves, develops. More rarely the muscles of the upper arm, as well as of the forearm and hand, are invaded. The duration of the diseases varies greatly,

but the prognosis is usually favourable, recovery ensuing sooner or later in the majority of cases. Inasmuch as paralysis following childbirth has usually been ascribed to a lesion of the spinal cord, the seven cases of Möbius, fully detailed in this article, are of much interest. It is not stated, however, by the author whether this form of neuritis is always preceded by some form of puerperal septicæmia, or whether it may occur without any other symptoms of blood-poisoning.

The Pathology of Pseudo-hypertrophic Muscular Paralysis.—Dr. G. A. Middleton records the results of the histological examination in two cases of this disease. In the first the microscopic changes were as follow :—

Muscular System.—The muscular fibres varied greatly in thickness. Some muscles, and especially those which were otherwise least abnormal, were in a condition of hyaline degeneration ; in others there was an increase of connective tissue between the fibres, or infiltration with fat. In the heart and bladder there was increase of interstitial connective tissue, but no fatty infiltration or hyaline degeneration.

Nervous System.—The only change found was the presence of small, whitish, glancing bodies, scattered in large numbers, and indifferently—though more numerous in the white substance than in the gray—through all parts of the nervous system that were examined. They stained in logwood and faintly in osmic acid. These the author justly concludes to have been produced by the method of preparation, the parts having been hardened in alcohol. In the second case, the muscular tissue presented a marked fatty infiltration, some increase of connective tissue, and atrophy of muscular fibre. There was no hyaline degeneration. The nervous system was practically normal. From a consideration of these cases, and a review of the literature on the subject, the author concludes that the disease is essentially a myopathy.—*Brain.*

The Spinal Cord in the Insane.—Dr. R. S. Stewart, of the Glamorgan County Asylum, records, in a recently published thesis, the pathological changes found in the spinal cords in twenty cases of insanity, of which five were general paralytics, six dements, four melancholics, four imbeciles affected with epilepsy, and one imbecile without that disease. Morbid conditions were found in every case examined. The principal microscopical appearances noted were changes in vascularity of the soft membranes and of the gray substances, changes in the white columns suggesting sclerosis, and

qualitative and quantitative changes in the cerebro-spinal fluid. Beyond slight congestion in one case, and thickening in another, the dura mater presented little appearance of alteration. In regard to the soft membranes, in twelve cases there was increased vascularity, more pronounced over the lumbar enlargement, and, as a rule, more so posteriorly than anteriorly. The cerebro-spinal fluid was found in excess in fourteen of the twenty cases. In four of the five cases of general paralysis the microscope revealed marked changes in the lateral columns, which were in every instance bilateral. In no case were the anterior columns affected, and in but a single instance were the posterior columns affected to such a degree as to give rise to ataxic movements during life. In four cases there were lesions in the columns of Goll, and in one there was distinct atrophy of the cord as a whole. Dr. Stewart continues the discussion of his examinations at considerable length, and draws the conclusion that in all forms of insanity in the cases he examined the most constant alteration of the spinal cord was a degenerative atrophy of the nerve cells of the gray substance, and that this lesion appeared to correspond closely in nearly every case with the degenerative process described by Charcot as "pigmentary degeneration, or that condition associated with pigmentary atrophy." Systematic degenerations of the white columns of the cord appeared to be constant lesions of general paralysis, and similar degenerations were of frequent occurrence in other forms of insanity.

IV. NEURO-THERAPEUTICS.

The Use of Sedatives in Insanity.—Dr. G. H. Savage, of Bethlem Hospital, draws the following conclusions from his long experience in the use of sedatives (*Practitioner*, Sept., 1886):—

Bromide of Potassium is useful in some cases of restless excitement. It should be given in 20-grain doses three or four times a day. It is most useful in young cases belonging to nervous families, especially those who complain of vague uneasy feelings in the head. It is also useful where there is any sexual perversion. It is often well to give the syrup of the bromide of iron. Young men and women who are at times depressed with suicidal or homicidal impulses are well treated by giving twenty to forty grains of bromide at night.

Chloral alone, or combined with bromide, is useful in the early stage of puerperal insanity. In cases of acute delirious mania and periodic excitement chloral is useful. It is, however, much abused.

It is rarely of service in the sleeplessness accompanying melancholia. In cases of great mental excitement both bromide and chloral may be prescribed, providing sufficient food be given. This rule should never be forgotten.

Hyoscyamin has held its own, and perhaps gained ground of late years. The greatest benefit follows when recurrent fits of excitement occur, either in chronic cases or in neurotic subjects who appear to be passing into a state of mental weakness, or of chronic recurrent mania as a result of the frequent attacks of excitement. In cases of chronic destructive mania with great sleeplessness and violence, this drug often gives sleep when morphin and chloral fail. It is always necessary to be sure that the patient's appetite is not being impaired by the drug. It should not be given in general paralysis, for the reason that these patients are nervously weak and easily affected.

Morphin is good in subacute mania, and in cases suffering from hypochondriacal symptoms with complaints referred to the gastro-intestinal canal. It is of service in some cases of melancholia occurring at the menopause, and also in some of those senile cases in which restless dread is the chief symptom. One-sixth to one-quarter of a grain subcutaneously every four hours will often do good.

Paraldehyde does less than the chloral, and in some cases of mental disturbance associated with sleeplessness and simple melancholia with inability to apply oneself to work where no bodily disease is present, it seems to be a useful addition to our remedies.

Hypnone is useful in some cases of active melancholia, and appears to be quite safe.

Urethan is much vaunted for allaying excitement in cases of chronic weakmindedness. It is worth trying in restless cases of melancholia. It is fairly pleasant, and can be given to suspicious patients or children, whereas paraldehyde and hypnone cannot.

The Effects of Hyoscin Hydrobromate and of Hyoscyamin in Insanity.—Dr. H. H. Wetherell, jr., of the Pennsylvania Hospital for the Insane, in a paper appended to the Report of the Lunacy Committee of the State Board of Public Charities, Pennsylvania, 1885, presents in tabular form some observations of the action of hydrobromate of hyoscin and hyoscyamin in the hospital with which he is connected.

There are three tables in all, comprising respectively 10, 7, and 12 cases; total, 29. Table 1 shows the effects of hyoscin hydro-

bromate (Merck's) administered by the mouth at 9 p.m. in cases of insomnia. All the cases in the group—mostly chronic lunatics—were habitually sleepless, and all the usual means to produce sleep had proved unsatisfactory. They were so under observation that it was positively known whether they did or did not sleep. The dose ranged from the $\frac{1}{100}$ to the $\frac{1}{240}$ gr., and the period of observation was three weeks. The results as to sleep were almost uniformly good, the period of sleep varying from five hours to all night. Table 2 shows the effects of hyoscyamin (Merck's), pure crystallised white, in insomnia. This group comprises six cases of chronic and one of subacute insanity. The drug was administered by the mouth, and at 9 p.m., as in the case of Table 1, the doses varying from $\frac{1}{12}$ to $\frac{1}{60}$ gr. The results as to hypnotic effect were not nearly so satisfactory as in the first group, where hyoscin was used, the periods of sleep varying from none at all to all night, with a preponderance in favour of the shorter. Dr. Wetherell suggests that an instructive comparison may be drawn from these tables as to the relative hypnotic activity of the two drugs. Table 3 is more elaborate. It shows the effects of hyoscin hydrobromate (Merck's) in a group of cases of chronic insanity, habitually in a state of aggressive violence, destructiveness, and great motor activity, and accustomed to the usual modes of medication. Horizontal lines show the record of the patient for the day, and three observations during that time are recorded for each patient, the conditions of pulse, respiration, pupils, skin, &c., being carefully observed. The results, as shown in this table, were highly satisfactory. "It might be in place here to say that we have made a thorough trial of hyoscyamin (Merck's) in the wards in this same class of cases with gratifying results, in hypodermic doses varying from $\frac{1}{60}$ to $\frac{1}{12}$ gr. It is our experience, however, that the dose has to be rapidly increased, and that it is a weaker and much less satisfactory remedy than hyoscin hydrobromate. Taking, then, the latter as the subject of the following remarks, it would appear to be a useful agent in the treatment of insomnia and motor excitement. Our experience has extended to many more cases than those included in the tables, and it appears probable that it will be found applicable to all forms of mental disorder which embrace as symptoms sleeplessness and restlessness. In cases of acute mania the continuous effect of small doses, given preferably by the mouth, will be found useful in subduing morbid activity. In the agitated form of melancholia, in doses varying in accordance with the

urgency of the symptoms and with the strength of the patient, it has been found to act very satisfactorily. The writer is at this time engaged upon the study of its action in a group of cases of acute insanity, and the results will be tabulated and offered for examination.

"Thus far it is believed no fatality has resulted from the administration of hyoscin, but it is an agent that should be used cautiously. We have found in a few instances that it has not been well borne—very moderate doses having been followed by extreme relaxation, anxiety, præcordial oppression, spasmodic pain referred to the cardiac area, and by weak irregular intermittent action of the heart. Such extreme effects from moderate doses are exceptional. Its conservative action is doubtless the most valuable of its effects, while it is very desirable to subdue or modify the noise and confusion of a ward of excited chronic patients occasioned by the influence of its most aggressive elements upon the others; it is highly important, in a more hopeful class of cases, to economise the vital forces, and to prevent excessive tissue waste by controlling insomnia and motor excitement. This being accomplished, the case is buoyed over its most critical period with the minimum amount of exhaustion, the convalescence is more rapid and satisfactory, and the period of residence in a hospital is abridged. It is evident that hyoscin intelligently used will fulfil these conditions. It is no exaggeration to state that the excited wards have entirely changed in character for the better since the introduction of this remedy, and its beneficial effects in acute cases have been most encouraging. We hope that this agent will receive fair trial at the hands of the general practitioner of medicine. It is not uncommon to hear of obstinate cases of insomnia whose disorder resists the most careful and varied treatment. This condition continuing undoubtedly predisposes to attacks of mental disorder. In this condition hyoscin might prove useful. The general practitioner is frequently brought into contact with cases of insanity in the very commencement of the attack, and is called upon to combat the insomnia and morbid restlessness over which the remedies usually prescribed exert but little influence. It is possible that very serious consequences might be averted, if in connection with generous feeding, sleep and relaxation of motor energy could be induced. The nervous perturbation present in cases of morphia habit, of intemperance, or of mania-a-potu, and of delirium occurring in the course of certain physical maladies,

would suggest the possible usefulness of the drug. The writer recalls a case of delirium closely simulating mania-a-potu from rapid abstraction of morphia in which the hypodermic use of hyoscyamin in doses of one-sixtieth of a grain produced the happiest effect. We have found the use of hyoscin hydrobromate in doses of one one hundred and twentieth of a grain very useful in the insomnia following alcoholism."—*Am. Journ. Nerv. and Ment. Dis.*

Hyoscin Hydrobromate as an Hypnotic in Private Practice.—Drs. F. L. and J. R. Haynes contribute to the *Therapeutic Gazette* (Sept. 15, 1886) the results of their carefully-recorded observations. The paper is based on the administration of 338 doses of hyoscin to 57 persons. Notes are given of all the cases, which are divided into three classes—those in which hyoscin caused I., sleep; II., delirium; and III., neither sleep nor delirium, but either no effect or various symptoms. The first class comprises 15 cases, the second 13, and the third 29. The authors say in some instances little or no effect was noticed after hyoscin, but generally one or more of the following symptoms occurred:—

1. Delirium, rambling or muttering, with hallucinations of vision, resulting in attempts to grasp imaginary objects. 2. Sleep, sometimes apparently natural, sometimes disturbed. 3. Intense reddening of the entire face, with sensations of heat affecting the whole body. It was not determined whether there was an actual elevation of temperature in such cases, as in belladonna poisoning. 4. Muscular weakness, sometimes extreme. 5. Headache. 6. Dryness of throat and mouth. 7. Dilatation of pupil, with blurred vision.

The most remarkable variation was noted in the symptoms in different individuals, and sometimes in the same individual. Thus equal doses were given to two women under very similar circumstances—one was poisoned; the other fell into a pleasant sleep. In one case $\frac{1}{100}$ gr. was followed by sleep, while $\frac{1}{95}$ gr. produced delirium. In another $\frac{1}{100}$ gr. produced delirium; and a larger dose—$\frac{1}{80}$ gr.—was followed by sleep.

The authors consider hyoscin extremely unreliable as an hypnotic, and that it should not be used in general practice except in cases in which other hypnotics have failed.

The Action of Urethan.—Dr. Emil Kraepelin contributes an article to the *Neurol. Centralblatt* (March 1, 1886) on the action of urethan. The reports on this hypnotic have, up to the present, been uniformly favourable. Kraepelin's experience has been of a

like character. He has given the drug in about 200 instances. Most of his cases were cases of insanity, but thirty-four instances of various other diseases were included. The dose ranged, as a rule, from 1 to 3 grammes. Occasionally a dose of from 4 to 5 grammes was given. No unpleasant effect on the heart or nervous system, either during the action of the drug or afterwards, was ever noticed. In one case of alcoholic gastric catarrh vomiting was produced by the large dose. The appetite, however, was never in the smallest degree impaired, even by the continuous use of the drug for several weeks. Urethan acts as a genuine hypnotic. Ten or fifteen minutes after taking it a quiet sleep comes on, which lasts for several hours, and from which the patient wakes up without any unpleasant feeling in the head. Should the sleep be interrupted by any external cause, the patient generally falls off to sleep again as soon as the disturbance is removed. The certainty of the drug's action depends upon the cause of the sleeplessness and on the dose. It is not a hypnotic of great energy, and in cases of great excitement it is of little value. In such cases it is far inferior to paraldehyde. In *delirium tremens* especially it failed. Perhaps, however, if higher doses were given in these cases the result might have been more satisfactory. For the relief of pain the author does not consider it of any use whatever. In cases of phthisis the combination of a small quantity of morphin was found useful. When given in doses of 1 gramme it acted sufficiently in 54 per cent. When the dose was 3 grammes, the result was favourable in 70 per cent. The form of mental ailment in most cases was general paralysis or melancholia. In the excited stages of general paralysis, small doses were frequently altogether without effect. The larger doses in such cases gave a satisfactory result in 60 per cent. of the cases. In the higher degrees of excitement—in mania, for example—as well as *delirium tremens*, the author found himself obliged to have recourse to paraldehyde. In melancholia the drug gave better results—it secured quiet sleep in 77 per cent. The patients were all women, and many of them were very anæmic. Amongst the most favourable indications for urethan the author places exhausting diseases, feverishness, and lowered nutrition. One great advantage this drug has over paraldehyde is that it is not so unpleasant to the smell or taste, and it can, if necessary, be taken in simple solution, without any flavouring or disguising agent.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ACADEMY OF MEDICINE IN IRELAND.

President—Robert M'Donnell, M.D., F.R.S.
General Secretary—W. Thomson, M.D.

SURGICAL SECTION.

President—Sir William Stokes, President of the Royal College of Surgeons, Ireland.
Sectional Secretary—Mr. W. Thornley Stoker.

Friday, April 22, 1887.

The President in the Chair.

Living Specimens.

Sir William Stokes—(1) Case of excision of shoulder-joint and upper third of humerus. (2) Case of lateral thyroidectomy.

Mr. Wheeler—Excision of wrist, two cases, in male and female.

Mr. P. J. Hayes—Excision of knee.

Mr. F. A. Nixon—Patient from whom one half of the lower jaw, including the condyle, was removed through the mouth.

Specimens by Card.

Sir William Stokes—Cancer of omentum and stomach.

Mr. Hamilton—Fracture of cervical spine.

Mr. Franks—(1) Fibro-myoma of uterus. (2) Round-celled sarcoma of colon. (3) Parts removed in operation for ununited fracture of humerus.

Mr. Nixon—(*a*) Half of lower jaw removed without external wound. (*b*) Revolver bullet grooved from impact on a rib.

Malignant Disease of the Tonsil.

Mr. Henry Gray Croly read a paper on primary sarcoma of the tonsil, and detailed the history of two cases:—(1) Michael Doherty, aged seventeen years, was admitted into the City of Dublin Hospital on the 22nd of April, 1886, suffering from a tumour involving the left tonsil and soft palate—the boy was in excellent health until six weeks previous to his admission into the hospital. The disease commenced like ordinary tonsillitis, and so much did the swelling resemble tonsillar abscess that an exploratory incision was made by the medical gentleman who first saw the case; no pus escaped. The patient suffered from dyspnœa and dysphagia. A glandular swelling subsequently formed in the left digastric space. Sir James Paget, who was in Dublin at the time, kindly saw the patient with Mr. Croly, and concurred in his view of the case and in the proposed treatment—viz., preliminary tracheotomy and removal of the growth from within. Tracheotomy was performed on the 4th of May; the patient experienced much relief. The tonsillar and palate swelling and the digastric tumour disappeared almost entirely after the tracheotomy, but soon reappeared. Mr. Croly excised the tumour from beneath the angle of the jaw on the 18th of May, and subsequently the tonsillar and palate growth by means of the benzoline cautery. The tonsil and digastric tumours were round-celled sarcomata. The disease returned very rapidly in the digastric space and afterwards in the palate. The patient got drowsy, and suffered from violent headaches; the glands in the neck enlarged; he returned to the country and died in October—six months from the commencement of the disease.

The second case occurred in a man over fifty years of age. The sarcoma was confined to the tonsil, and so much did it simulate tonsillar abscess that an incision was made into the tumour. Mr. Croly declined operative treatment in consequence of extensive infiltration of the cervical glands. The patient returned to the country and died from exhaustion caused by repeated hæmorrhages.

The President said the case was one of great clinical interest and of exceptional rarity. Though the operative measure was not attended with success, yet that procedure was eminently justified, and at an earlier stage might have had a different result.

Mr. Hamilton having seen the case in conjunction with Sir James Paget, was forcibly struck with it as presenting the characteristics of malignant disease. While approving of the operation as the patient's only chance of escape from the disease, he had entertained but slight hopes that it would be successful, there was such extensive infiltration of the tissues. Doubtless, however, the man's life was prolonged.

Mr. Thomson asked whether Mr. Croly had succeeded by this method in getting away the whole of the tonsil with the cautery; because if

there was only a sprouting mass removed and portion left behind, the after-history was intelligible. He never saw a case of the kind, but he thought that the external operation would give increased facility for getting at the structures to eradicate them. The difficulty of operating through the mouth on the tonsil was the uncertainty of removing the whole gland.

Mr. W. Thornley Stoker said he was fond of the thermo-cautery, and used it freely and frequently; but this was one of the cases in which he would be slow to rely upon it as being an instrument of dangerous facility in finding its way, and therefore if he sought to do more than remove the surface of the gland, especially where malignant disease existed, he would adopt the apparently more heroic operation of dividing the cheek and jaw, and enucleating the gland from its attachment by means of an instrument of less facility.

Mr. Kendal Franks concurred with Mr. Stoker in his objection to the thermo-cautery, not only because the surgeon might travel into undesirable parts, but also because of the increased difficulty which cauterisation created of seeing the limits of the disease. Although he had been looking at tonsils a good deal, he had never seen a case of primary cancer. He had, however, operated on cancerous tonsil in connection with disease of the tongue, the details of which he brought before the Academy. In the present case he thought Mr. Croly was right in taking it from the inside, and that the surgeon need not be afraid of going close to the carotid artery, there being a good depth of tissue between the tonsil and that artery to avert danger.

Mr. Corley would have considerable hesitation in applying the point of a thermo-cautery to a tonsil, either externally or inside.

Mr. Croly replied.—His first idea was to relieve the patient by tracheotomy from the sense of choking, having no wish to cut out the tonsil either from inside or outside. His experience of those growths had been, unfortunately, that the operation would give only temporary relief. Hence he asked Sir James Paget what would he do if he had the case in London, and that eminent surgeon replied that he would perform the preliminary tracheotomy and cut out so much of the tumour through the mouth as he could get out. In fact, in this instance, unless he cut off the boy's head he could not have cut out the disease, and therefore it was immaterial whether he made an external or an internal incision, although he reflected on the hazardous proceeding of cutting within from without. He regarded the case as one of malignant disease occurring with great rapidity, and it was a question whether, in a similar case, he would do anything but tracheotomy to relieve the patient. The external growth was completely encapsuled, and came out as a nut would out of the shell. The wound healed by primary union, but the disease returned with great rapidity, being in the boy's blood. What proved of greatest interest to him was its likeness to tonsillar abscess.

Excision of the Wrist-joint.

Mr. Wheeler read a paper on excision of the wrist-joint.

Mr. Hamilton asked why Mr. Wheeler retained Esmarch's bandage in this particular excision and objected to it in others. He himself disliked it in almost all excisions, particularly of the knee, owing to the increased amount of blood lost.

Mr. Croly said he had excised the wrist four or five times, adopting Sir Joseph Lister's operation, which he had seen him perform. Great stress was laid on early passive motion of the fingers. He aimed at avoiding injury to the tendons, especially of the thumb, and also injury to the radial artery. Another point emphasised by Lister was to cut the end of the ulna in such a way as to prevent it dropping on the styloid side. He himself never put on the India-rubber ring, which was the great objection to Esmarch's bandage, but he put a few turns of the bandage above the elbow, and thus was avoided the risk of pressing the brachial plexus against the bone, while at the same time a bloodless operation was secured. Perfect fixation of the wrist and commencing passive motion the very day after the operation were the important points.

The President.—In reference to your application of Esmarch's bandage, how do you prevent the return of the blood?

Mr. Croly.—I raise the arm, and putting a few turns of the elastic bandage above the elbow, I have a bloodless operation.

The President said there was a tendency to run down Esmarch's bandage, which he was not inclined to endorse from his own experience. In his case, where secondary hæmorrhage ensued, he believed it was due to the faulty application of the bandage, perhaps with too great firmness, but he looked upon it as one of the greatest improvements in modern surgery.

Mr. W. Thornley Stoker expressed his unqualified objection to the use of Esmarch's bandage in any excision of a joint; but he would be sorry to object to its use in many other forms of operation—for instance, the removal of necrosed bone, where, without it, the surgeon saw nothing but a pool of blood. In excision of joints, however, there were two great objections to its use—first, troublesome hæmorrhage, which some attributed to want of skill in applying the bandage; but he believed it never could be applied in such a way as to empty the limb of blood without being followed by troublesome hæmorrhage. The second objection was that it altered the appearance of the bone so much that the surgeon could not form a proper estimate as to whether the bone was truly healthy or diseased. The term "bandage" was loosely employed, some referring thereby to the elastic bandage proper, and others to the tourniquet. He did not believe the bandage proper ever did harm. What did

the harm was the elastic tourniquet being tightly applied above the seat of the operation, the constriction paralysing the vaso-motor nerves and bleeding following. Mr. Croly did not really use Esmarch at all. He did not conserve the blood for the use of the patient, but he employed the bandage as a tourniquet above the seat of operation, which was a different thing.

Mr. Croly explained that he blanched the limb thoroughly by elevation. There was no blood lost during the operation.

Mr. Corley said, in excision of the wrist, the question of the case being scrofulous was a serious item for consideration, having regard to the probable return of the disease, and therefore the necessity of amputation in the end. Thus Mr. Wheeler's cases, judging from the ages of the patients, were not strumous cases, and the chances of success were fair. In that view the question of Esmarch's bandage was one of minor importance.

Mr. Tobin was surprised to hear early passive movement in such cases recommended, except where there was likely to be stiffness.

Mr. Wheeler replied.—The splint he used was similar to that employed by Lister, but a little more elevated at the heads of the metacarpal bones. Having put in a drainage tube, he bandaged the hand to the splint, putting T-nicks at each side, so that he need not remove it. The wrist was steady on the splint, while each finger was moved separately. He had deprecated the use of Esmarch's bandage in excision of joints; for in excision of the knee he had secondary and sometimes intermediary hæmorrhage, and if that occurred whilst the limb was in a fixed apparatus of plaster-of-Paris, it would be necessary to take off the plaster-of-Paris to stop the hæmorrhage. He did not, however, condemn Esmarch's bandage in suitable cases where there was considerable oozing and it was necessary to see the parts—for instance, he used it when removing the cuboid bone. Having used the bandage both ways—with the rubber and elevating the limb—he found that by putting the band round above the seat of operation and not using the rubber, he had an almost bloodless operation. The best time to begin passive movement was on the second or third day following the operation, the metacarpal bone being held steady.

The Section adjourned.

SUB-SECTION OF ANATOMY AND PHYSIOLOGY.

Chairman—J. A. Scott, F.R.C.S.I.
Sub-Sectional Secretary—H. St. John Brooks, M.B.

Closing Meeting, Thursday, May 5, 1887.

Mr. J. A. Scott in the Chair.

Dissection of the Plantar Arch from the Dorsal aspect of the Foot.

Dr. Brooks showed a dissection of the plantar arch from the dorsal aspect of the foot. This dissection was performed by removing the three middle metatarsal bones from above. Dr. Brooks explained that he had shown a similar dissection last session, but as that was only roughly prepared he now took the opportunity to exhibit a finished preparation.

Varieties in the Mode of Origin of the Phrenic Nerve, with some Notes on Nerve-variations in the superior extremity.

Dr. Brooks read a paper on the above subject.

This paper was illustrated by coloured diagrams—the third, fourth, and fifth nerves being each indicated by a distinct colour. In the eighteen cases examined, the author has performed the entire dissection himself, as partially dissected subjects could not be relied upon as statistical evidence. All authors are agreed that the main root of the phrenic nerve is from the fourth cervical nerve, but some anatomists (Henle, Krause) consider the commonest accessory root to be derived from the third. A root from the third was present in only three out of these eighteen cases, while a root from the fourth (either directly, or through the nerve to the subclavius) was present in twelve cases. Out of the remaining six the nerve to the subclavius was not noted in four cases, leaving only two cases in which the nerve root from the fifth was proved to be absent. The three cases in which the root from the third was present all occurred on the right side. Nine right phrenic and nine left nerves were observed. In three cases the nerve to the subclavius was observed to arise from the third nerve instead of the fourth.

In forty-five cases the root to the nerve of Bell from the seventh cervical nerve (which is regarded as abnormal by some anatomists) was present forty-one times. In one case a root from the eighth was also present.

The author has also observed that the nerve to the rhomboids usually passes through the levator anguli scapulæ in the form of several twigs, which unite lower down, constituting a sort of plexus. He also recorded

a case in which the flexor sublimis digitorum received a twig from the ulnar nerve.

Anthropoid Apes.

Dr. Brooks also read a paper on the short muscles of the pollex and hallux of anthropoid apes, with special reference to the opponens hallucis.

The author remarked that the number of distinguished anatomists who have written on the structure of the anthropoid apes might make this paper appear a work of supererogation, were it not that very material differences occurred in their writings, more especially in regard to the small groups of muscles which he proposed to describe. The labours of Von Bischoff, D. J. Cunningham, and others, had shown that the names usually applied to the thenar muscles of the human hand conveyed an altogether erroneous idea of their morphology; he therefore adopted the following names for the short muscles of the thumb—*abductor* and *opponens pollicis*, as ordinarily described; *Flexor brevis pollicis*, consisting of a radial and an ulnar head—*radial head*, as described by Gray and Ellis; *ulnar head*=the *interosseus volaris primus* of Henle—a small deeply-placed muscle arising from the base of the thumb-metacarpal bone and inserted into the sesamoid bone, at the ulnar side of the metacarpo-phalangeal articulation of the thumb; *Adductor pollicis*, consisting of three parts—(*a*) a *slip* attached to the radial sesamoid bone of the thumb (regarded by Quain as part of the radial head of the flexor brevis pollicis); (*b*) *adductor obliquus*=the so-called *inner head of flexor brevis*; and (*c*) *adductor transversus*=*adductor pollicis*.

After describing the short thumb-muscles of the chimpanzee, orang, and gibbon in detail, the author concluded that the pollicial muscles of the gibbon differ from man—(1) in the proximal position of the adductor; (2) in the part-insertion of the adductor into the metacarpal bone of the thumb; (3) in the prolongation of two of the short muscles (adductor and flexor brevis), to the ungual phalanx; and (4) in the greater relative development and more palmar position of the true ulnar head of the flexor brevis. The orang differs from man chiefly in its very feeble opponens. The opponens is very human in its character in the other two apes. The ulnar head of the flexor brevis is less developed in the orang than in the gibbon, but is still large in comparison with the "interosseus primus volaris" of man, and much more palmar in position than the latter muscle. In the chimpanzee all the thumb-muscles are excessively human, but the ulnar head of flexor brevis has suffered a still further reduction than in man, being here reduced to a fibrous rudiment. After referring to the works of Vrolik, Von Bischoff, Duvernoy, Huxley, Church, Champneys, Hartmann, and others, the author proceeded to describe the short muscles of the hallux, in which the principal interest centred in the opponens hallucis. Professor Huxley described it in the

orang (*Medical Times and Gazette*, Vol. I., p. 596, 1864); Von Bischoff found it as a peculiar speciality in the orang and macaque monkey; it has been described by Macalister in the gorilla; Hartmann states that it is present in all the anthropoids; the author had only found an opponens hallucis, *derived from the tibial head of flexor brevis hallucis, and therefore homologous to the opponens pollicis*, in the orang—it was absent in the chimpanzee and gibbon (he had not had an opportunity of examining the gorilla). In all three anthropoids, however, he had found some fibres of the adductor hallucis inserted into the metatarsal bone of the hallux, and these would come under Professor D. J. Cunningham's definition of an opponens—viz., "any intrinsic muscle of the foot which is inserted into the shaft of a metatarsal bone" (Zoology of the Challenger, Vol. XVI., p. 137); the opponens hallucis described by Hartmann in the gorilla, chimpanzee, and gibbon is probably of this nature, as in the gibbon he describes an opponens "to which a large fan-shaped adductor is attached."

The Chairman said that Dr. Brooks had, as in his former papers, brought forward more facts than theories. The text-books ought to be corrected in the light of recent investigations, verified as they had been by such an extensive series of observations as Dr. Brooks had conducted. He considered that it was of more importance to correct errors than to introduce new facts.

Mr. Doyle concurred, and would have a revision of the text-books at least every ten years.

Dr. Brooks having replied,

The Sub-Section adjourned.

SUB-SECTION OF STATE MEDICINE.

Chairman—John William Moore, M.D. Univ. Dubl.

Sub-Sectional Secretary—E. MacDowel Cosgrave, M.D.

Thursday, May 19, 1887.

Dr. J. W. Moore in the Chair.

Distribution of Phthisis and Diseases of the Respiratory Organs in Ireland.

The Registrar-General for Ireland (Dr. T. W. Grimshaw) read a paper on the prevalence and distribution of phthisis and diseases of the respiratory organs in Ireland. Having apologised for some imperfections in the manner in which the paper was turned out, and the manner in which the illustrative maps and diagrams (all of his own drawing) were executed, he referred to the interesting investigations as to the distribution

of consumption in England and Wales carried out by Mr. Haviland some years ago, and then proceeded to analyse the results obtained by an investigation and comparison of the death rates from the diseases under discussion, as recorded in the Superintendent Registrar's districts of Ireland during the decade 1871–80. The total number of deaths in Ireland during the decade was 966,745, of which number phthisis caused 103,528, or more than one-tenth; other forms of disease of the respiratory organs 142,991, or about one-sixth—the two groups taken together causing more than *one-fourth* of the total mortality of Ireland. Lung disease was, therefore, the most important element in considering questions connected with the health of the people of Ireland. Dr. Grimshaw then dealt with the difficulties surrounding the consideration of the question, and having cleared up these as far as possible, analysed a large number of tables, and exhibited maps illustrating the distribution of lung diseases in Ireland, and compared the rate of mortality with those from similar diseases in foreign cities, England, and the antipodal colonies of Great Britain. The main conclusions arrived at by Dr. Grimshaw were that the less civilised portion of the population of Ireland were less affected by phthisis and lung disease than the more civilised portion of the community; that not only was phthisis more prevalent among urban than among rural populations, but that essentially rural populations near large towns suffer more than those in remote districts—thus pointing to infection as a means of spreading the disease. Comparing the distribution of phthisis with the physical configuration of the country, it was found that, as elsewhere, the low levels suffered more than the high levels. The bogs do not seem to specially favour the prevalence of phthisis—indeed they seem rather to counteract the disease. There was no constant relation between the prevalence of phthisis and other forms of disease of the respiratory organs. In many cases there is an absolute contrast between the prevalence of phthisis and the other forms of lung disease. A map showing the more elevated portions of the country, when compared with a map showing the distribution of phthisis, showed that disease to prevail most in the less elevated portions of Ireland. There did not appear to be a close relation between the general distribution of the geological formation and the prevalence of either phthisis or other forms of lung disease, except in so far as geological formation influenced elevation, &c. Dr. Grimshaw also pointed out the relations between the prevalence of the forms of disease under discussion and the meteorological conditions.

Sir Charles Cameron said the subject opened a vast domain for investigation to those interested in the ætiology of disease. It was remarkable that there seemed to be a greater prevalence of the diseases in question on the eastern than on the western seaboard. Dublin occupied a bad position of eminence in the order of mortality—exceeding, as it did, even Belfast, where, on account of the flax manufactures, diseases of

the respiratory organs might be expected to abound. The death-rate would be a means of comparing the salubrity of the different districts.

Dr. Charles F. Moore, referring to Dr. Grimshaw's observation that sudden change was apt to produce bronchitis, said there was no country where there was greater suddenness of change of temperature than Egypt, and yet it was a common thing to send people to Egypt to be cured of phthisis. Indeed he had himself seen bad cases of phthisis there among the natives. He believed that effective drainage diminished the death-rate. The greatest improvement was at Salisbury, where the diminution was about 49 per cent. The drainage question was important in Dublin, where the subsoil water had greatly increased since the disuse of pumps. Now that the Government had control of St. Stephen's-green Park, it would be worth while if they could be induced to concrete the bottom of the lake, as was done in the lake in St. James's-park, London, to prevent leakage into the subsoil. Many years ago Sir William Wilde drew attention to the prevalence of phthisis round the coast of Ireland. The Bog of Allen and other bogs in the centre of Ireland were factors which favoured phthisis. So also did crowded populations. In the Zoological Gardens, Phœnix Park, phthisis prevailed amongst the monkeys.

Dr. Cosgrave adverted to the report, mentioned in a recent number of the *Dublin Journal of Medical Science*, of the observations of Dr. M'Neill, Medical Officer of the Gesto Hospital, Isle of Skye, as indicating that consumption was communicable from one person to another. Dr. M'Neill stated that phthisis was hardly met with amongst islanders until they went south to the large towns, from which they often returned to die of phthisis, and sometimes communicated it to the natives.

The Chairman pointed out that the rule that large cities favoured the prevalence of consumption found a remarkable exception in London, where the disease was below the average, except in the eastern districts. The forms of pulmonary consumption and the ætiology of the affection must be considered in regarding the apparently anomalous distribution of the disease on the English map drawn out by Mr. Haviland. The blue marks indicating the disease corresponded to the coal mine districts, and probably the phthisis prevailing there was of that peculiar form arising from the inhalation of coal dust. Again, the blue district extended to Sheffield, where existed knifegrinder's rot; and also remarkably near Birmingham, where there were workers in steel. The deepest blue extended to Lancashire and South Wales, where coal mining was largely practised. In the east there were two exciting causes—first, a waterlogged soil, which was not counteracted by the prevalence of peat—as, for example, in the broads of Norfolk and a swampy district extending over Cambridgeshire; and, secondly, to the exceeding severity of the spring months, due to the parching east winds from the North Sea. The foregoing were possible explanations; but in contradiction of the last-mentioned cause of

the prevalence of phthisis, probably of pneumonic origin, in the east of England was the fact that it seemed to be very much below the average in Yorkshire. However, that might be accounted for by the high moorlands in Yorkshire, where also much moisture was not retained in the soil. Turning to Ireland, there could be no question but that the large towns acted as foci from which pulmonary phthisis seemed to spread. He agreed with Dr. Grimshaw that rainfall had very little to say to the matter as regards Ireland. But the question of rainfall was itself interesting as showing how the rainfall diminished from the west to the east coast, particularly in the neighbourhood of Dublin, which was protected from the S.W. winds by high mountains. He did not agree with Dr. Charles Moore as to the pernicious effect of the Bog of Allen. His opinion was, on the contrary, that large peat districts perhaps tended to control phthisis by acting antiseptically. The distribution of bronchitis in the south of Ireland was most puzzling, and he was at a loss to explain it.

The Registrar-General (Dr. Grimshaw), in reply, said:—With regard to Kilmallock it was curious the mortality from bronchitis appeared to indicate rather a healthy condition of the population. The number of old people who died there from bronchitis was extraordinary, and the great majority of the bronchitis cases were returned as from the Kilmallock Workhouse. The disease was not, in fact, strictly speaking, bronchitis, but the bronchial effusion of old age. Of course that depended on how the certificates were given. The effect of drainage was well known in diminishing phthisis, cholera, and typhoid fever. It was, however, always a question as to whether drainage diminished the phthisis death-rate. For his own part, he was inclined to think that it acted indirectly by improving the general health of the people, and by diminishing the prevalence of pneumonia, which was one of the principal foundations of phthisis, and also by diminishing the prevalence of typhoid fever. The drainage of towns was not a question of the drying of soils so much as the getting rid of dirt and sewage matter. How much was due to the drying of the soil itself, or how much to getting rid of dirt, it was impossible to say, or to explain which was the main factor of disease. With a perfect system of sewerage in Dublin and the dirt kept out of the Liffey, and a clean gravel bed in the centre, the public health would improve. Pumping would make little difference. As well might an effort be made to pump Dublin Bay dry. When cholera prevailed in Pembroke township district there was practically no cholera in Rathmines, the reason being that Rathmines was dry, while Pembroke was waterlogged, having a gravel bed with the clay below it like a sponge in a basin. Sir William Wilde had mentioned that the prevalence of phthisis along the eastern coast was specially referable to the general conditions of life. Unfortunately, when he made his observations he had as reliable data very few facts, there being then

no machinery for registration, and the only evidence being hearsay. In 1851 the "Cause of Death" was recorded from the recollection of the people who filled the Census forms. How unreliable this information was he had an illustration of in investigating a case of alleged death from starvation. It turned out that an immense number of people were reported to have died of starvation in 1849, while everybody knew that hardly anyone had died of starvation in that year, but prior to 1848. At the same time, the return of the prevalence of disease on the Census night was very valuable. As to the bogs, he was of opinion that a bog was a totally different thing from a marsh, so far as the health of the community was concerned. The most familiar example in proof was that ague prevailed in the marshy lands of England, but it never occurred in a marshy bog. What the antiseptic property of peat was he did not know, but that it was antiseptic there was no doubt. Many examples of the antiseptic properties of bog had been observed. The presence of phthisis in the animals in the Zoological Gardens was due, he had no doubt, to their eating tuberculous food. Dr. Haughton, Honorary Secretary to the Zoological Society, found that when the monkeys were taken off meat—which consisted generally of carrion or diseased cattle unfit for human food—the phthisis diminished. Bread and milk agreed very well with the monkeys.

The Sub-section adjourned.

MEDICAL SECTION.

President—James Little, M.D.; President of the King and Queen's College of Physicians.

Sectional Secretary—A. N. Montgomery, M.K.Q.C.P.

Friday, 27th May, 1887.

The President in the Chair.

Exhibition.

Dr. Knight exhibited a case under treatment by rectal inflation, after the method of Bergeon, and also showed the instrument devised for that purpose and the method of using it.

Some Notes on the Mineral Springs of Auvergne.

Mr. M. A. Boyd, who contributed a paper on the mineral springs of Auvergne, said, as the season has arrived when medical men are in the habit of recommending additional therapeutic agents for their patients in the shape of mineral waters, Auvergne offered, in his opinion, one of the best situations on the Continent in which to choose one, owing to the number and variety of its many springs, and the ease with which they can

be reached from Paris by rail. Of Royat he did not intend to speak, as it was now so well known to the members of the Society through the communication of Dr. Cruise last year, that any additional description would be on his part superfluous. La Bourboule, Mont Dore, and Chatel Guyon, which he visited in the autumn of last year, and the effects and properties of which he studied during his stay, would occupy the principal portion of his remarks. La Bourboule was, in his opinion, one of the best springs on the Continent, and though the strongest arsenical spring known, was one of the best mineralised and easiest borne by the invalid. Its bathing establishment is now one of the finest in France, and fitted up with every apparatus needed for the administration of the waters in the form of steam spray, douche, or pulverisation for diseases of the naso-pharynx and larynx. It is in the treatment of obstinate skin diseases, such as psoriasis, eczema, and lichen, suppurating tubercular glands, and all forms of tubercular disease, including phthisis, that its waters are best known, and Dr. Brauat, of Royat, informed Mr. Boyd that many cases of obstinate skin diseases, unrelieved by Royat, rapidly got well by an after-course of La Bourboule. The La Bourboule waters bear exportation well, and were, in his opinion, an admirable form in which to administer arsenic to those cases requiring it. It exists in the waters in the form of arseniate of sodium combined with bicarbonate of sodium and chloride of sodium, at a temperature coming from the spring of 140°. F.

Mont Dore, which enjoys a cooler climate than La Bourboule, being about 4,000 feet above the sea level, contains many valuable springs of a lower temperature than those of La Bourboule—113° F., with arsenic in combination with iron, but in a less quantity than in those of La Bourboule. The vapour establishment of Mont Dore is the great feature of the place. Two large inhalation halls containing the waters in a state of steam spray are filled with patients undergoing this method of treatment for diseases of the respiratory organs. Here may be found, side by side, asthma, emphysema, and cases of phthisis, with tubercular cavities in the lungs—a system which is open to the very gravest objection, as the bacilli of phthisis are most at home in such a moist warm atmosphere, and likely to find a fitting receptacle in the lungs of the uninfected breathing such an air. There was no doubt about its efficacy in cases of bronchial asthma, bronchitis, and emphysema, though its effects in spasmodic asthma and phthisis were very doubtful. Patients suffering from these maladies were, in his opinion, more benefited by the pure air and high altitude than by the waters. The season was a short one at Mont Dore—from the end of June to the beginning of September.

Chatel Guyon, which is called the Kissingen of France, is also a thermal spring possessing considerable aperient action, which is owing to the presence in it of chloride of magnesium, in combination with chloride of sodium and bicarbonates of sodium, calcium, and iron. The situation of

the place is in one of the beautiful Auvergne valleys, about six miles from Royat, and the waters enjoy a wide reputation for the cure of obstinate constipation, the beneficial effects of the waters continuing after leaving the spring. It is resorted to principally by dyspeptics and gouty patients, while its baths, containing a large quantity of carbonic acid, have a most beneficial effect on cases of uterine disease, diabetes, and Bright's disease.

Dr. Finny observed that until recent years the foreign springs were not generally known to the profession in this country, and it was of importance to bring before the Academy not only the therapeutic properties of the different springs, but the local methods of treatment, the season to go to the springs, the attractions of the scenery, the nature of the climate, and the means of access. He had himself sent two patients to the Auvergne district last year. The large quantity of arsenic in the water brought under notice by Mr. Boyd, and the large doses recommended, suggested the utilisation of that water for anæmia, the idiopathic variety of which resisted all other treatment except arsenic.

The President said the therapeutic history of mineral waters remained yet to be written. *À priori* conclusions were fallacious; but perhaps for the practical physician it was enough to be assured that a patient sent to Aix-la-Chapelle would have syphilis removed, or that one sent to Wiesbaden would be relieved of gout. In order, however, to arrive at a sound conclusion it was important to have reliable statistics—for instance, of the number of cases of eczema sent to Royat which came back worse, better, or unaffected; and so on in respect of the other springs to which specific curative properties were attributed.

Mr. Boyd replied.—He found Royat hot in the end of July and beginning of August, while Mont Dore was cool enough for anybody, and the evenings were cold enough to require an overcoat. The scenery enhanced the value of the Auvergne district, which was called the Switzerland of France, and was unparalleled for a walking tour as regards delightful views and bracing air.

Pityriasis Rubra.

Dr. Wallace Beatty read notes of a case of pityriasis rubra which had been under his care. [They will be found in the Number of this Journal for July, 1887, page 8.]

Dr. Finny verified Dr. Beatty's description of the case, but expressed disappointment that more attention was not directed by him to show the intimate connection of the disease with others, or to demonstrate its own special identity beyond the opinion that it was a separate disease from psoriasis or eczema. He had himself under treatment a woman in whom the epidermic scales were larger than in Dr. Beatty's case (as seen by the specimens on view), and were more universally spread as affecting the mucous membrane of the nose, mouth, and vagina, as well as the whole

body; and in that case there was a history of eczema. He had also met with two other cases. One was that of a young man who had been in Glasgow, under Dr. M'Call Anderson, whose prescriptions he had. The whole history of the case was plainly one of eczema, showing a connecting link with that disease. Another case illustrating the connection of dermatitis exfoliativa with other diseases was that of a clerk who suffered from psoriasis diffusa, and who had been frequently under treatment for that disease. Dr. Duncan Bulkley, who was passing through Dublin, saw the case and concurred in the view that it was one of dermatitis exfoliativa [photograph exhibited], and the scales covered him from head to foot. Here, then, was a case connecting the disease with psoriasis.

Dr. Walter G. Smith said that instances of skin disease assuming a generalised type, and invading the whole body, were sufficiently rare to call for immediate notice, and to raise a question as to their nature. The affections named as possibly invading the whole surface of the body were few—namely, universal eczema, universal psoriasis, the so-called pityriasis, extensive ichthyosis, and possibly one or two others. A question being raised as to diagnosis, the question of nomenclature was one not merely of words but of the natural affinity of a generalised eruption of the skin and the probability as to substantive affections liable to invade the whole surface of the body; or again, was it a rare accident liable to supervene on antecedent conditions of the skin. The microscope would not help to decide the point; it must be decided by clinical investigation. He objected to "pityriasis rubra" as etymologically incorrect. Anyone glancing at the scales would see the term was inapplicable. He also objected to using a generic term like "pityriasis," applying it at one time to a specific parasitic disease and at another to a generalised disease of totally different ætiology. Therefore the term "dermatitis exfoliativa," though it did not mean much, was preferable, because it did not involve etymological or verbal inaccuracy, and did not bind one to any particular pathology. It might be, as regards diagnosis, that Dr. Beatty was satisfied his case differed materially from eczema. But that was not the point; it was a wider one. There were moist forms of eczema, and dry forms, on the other hand, connected with extensive psoriasis, so that the diagnosis of it as an independent affection was not quite certain. There were grave cases of the disease which tended to death. But there were, from a clinical point of view, two groups of generalised inflammation of the skin—first, a group of cases arising as a primary substantive affection without history or evidence of prior skin disease; and secondly, a group grafted upon antecedent conditions of the skin, whether eczema, pemphigus, or psoriasis. A subdivision would be made into the acute cases and the chronic. The acute were those that recovered. All the Dublin cases recovered, being of the acute type. Those cases developed rapidly over the surface of the body, ran a defined course, and without complication

yielded to treatment. The other group assumed from the first a chronic form, or a relapsing, which came to the same thing. Thus a case was recorded of 30 attacks in 30 years, and another of 17 different attacks in a lifetime.

Dr. Mapother said the rarity of the disease was shown by the fact that, in his experience of 25 years in St. Vincent's Hospital, not more than three cases occurred of exfoliative dermatitis. The case most recent in his memory was that of a girl, aged eleven, who was treated early last year for an initial attack. She had been perfectly healthy and free from disease till admitted in April, 1886, and it was remarkable that whilst in hospital she contracted scarlatina of rather a severe type, but the zymotic disease did not appear to interfere with the course of the other, and she made a good recovery. The other cases also recovered.

Dr. John William Moore said the polytypical nature of eczema was forcibly brought home to him on a recent occasion in connection with a case in the Meath Hospital. A young woman, deaf and dumb, who, nevertheless, was sufficiently intelligent to communicate that she had been ailing only three or four days before admission, had distinct patches of eczema about her ears, and on exposing the chest there were two or three places where the eruption was of the usual vesicular type, while everywhere else it was papular or papulo-squamous. There was no suspicion of syphilitic taint. She was treated by means of baths, an ointment of salicylic acid and mild aperients, and in a fortnight or three weeks she perfectly recovered. Small as were the vesicular manifestations the disease was one of acute eczema, thus bearing out Dr. Smith's observation that the most acute cases do best. The so-called pityriasis rubra, he had little doubt, was only a variety of general eczema.

The President having seen the patient, said there was nothing about her skin that had the eczematous appearance; there was an entire absence of the weeping. At the same time, every dermatologist who had seen skin diseases had occasionally seen cases in which the affection of the skin in certain parts of the body would deserve the appellation of eczema, and yet in other parts would deserve the appellation of psoriasis.

Dr. Beatty replied.—His main object was to report the case, not to discuss the connection between the particular disease and other skin diseases. During the last five years he had seen a great many cases of eczema at the Adelaide Hospital, but not one at all resembling the description of the disease in question. The scales seemed to be entirely exfoliated, and the fact that the disease was general and dry separated it from all the other cases. He would not be justified, however, in forming the opinion from one case that the disease was a substantive independent one; but he agreed with Dr. Smith that the name he gave the disease was a bad one, and he used it as given by the writer who first described it—namely, Duvergie.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, August 13, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	July 23.	July 30.	Aug. 6.	Aug. 13.		July 23.	July 30.	Aug. 6.	Aug. 13.
Armagh -	25·8	0·0	0·0	15·5	Limerick -	14·8	22·9	18·9	13·5
Belfast -	26·7	22·3	23·9	19·7	Lisburn -	9·7	14·5	19·3	24·2
Cork -	23·4	22·7	22·7	26·0	Londonderry	16·0	17·8	3·6	14·3
Drogheda	12·7	25·4	25·4	16·9	Lurgan -	5·1	0·0	15·4	15·4
Dublin -	29·5	29·8	29·2	30·7	Newry -	3·5	3·5	10·5	17·6
Dundalk -	13·1	8·7	13·1	13·1	Sligo -	14·4	24·1	0·0	9·6
Galway -	40·3	10·1	13·4	16·8	Waterford -	20·8	27·8	32·4	20·8
Kilkenny	25·4	59·2	12·7	29·6	Wexford -	21·4	12·8	29·9	17·1

In the week ending Saturday, July 23, the mortality in twenty-eight large English towns, including London (in which the rate was 24·5), was equal to an average annual death-rate of 22·2 per 1,000 persons living. In Glasgow the rate was 21·4; and in Edinburgh it was 18·7.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 25·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·0 per 1,000, the rates varying from 0·0 in Limerick, Newry, Drogheda, Wexford, Sligo, Lisburn, and Lurgan, to 10·3 in Armagh—the 5 deaths from all causes registered in the last-named district comprising 2 from diarrhœa. Among the 115 deaths from all causes registered in Belfast are 9 from whooping-cough and 15 from diarrhœa. The 9 deaths in Londonderry comprise 1 from typhus and 1 from diarrhœa. Among the 9 deaths in Waterford are 3 from

whooping-cough. Of the 6 deaths in Kilkenny 1 was caused by scarlatina, and the 3 deaths in Dundalk comprise 1 from the same disease.

In the Dublin Registration District the births registered during the week amounted to 202—93 boys and 109 girls—and the deaths to 202—97 males and 105 females.

The deaths represent an annual rate of mortality of 29·8 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 29·5 per 1,000.

Fifty-three deaths from zymotic diseases were registered, being 5 over the number for the preceding week and 29 in excess of the average for the 29th week of the last ten years: they comprise 21 from measles (a decline of 7 as compared with the preceding week), 1 from scarlet fever (scarlatina), 3 from whooping-cough, 2 from enteric fever, 18 from diarrhœa, 3 from dysentery, &c.

Forty of the 53 deaths from zymotic diseases occurred amongst children under 5 years of age, including 19 of the deaths from measles and 14 of those from diarrhœa.

Forty cases of measles were admitted to hospital during the week, being 1 over the admissions for the preceding week; 49 measles patients were discharged, 3 died, and 107 remained under treatment on Saturday, being 12 under the number in hospital at the close of the preceding week.

Only 3 cases of scarlatina were admitted to hospital, as compared with 10 admissions in the preceding week; 6 patients were discharged during the week; and 30 remained under treatment on Saturday, being 3 under the number in hospital on Saturday, July 16.

No cases of typhus were admitted, but 8 cases of enteric fever were received, against 1 for the preceding week; 14 cases of enteric fever and 1 of typhus remained under treatment in hospital on Saturday.

Twenty-eight deaths from diseases of the respiratory system were registered, being 9 over the average for the corresponding week of the last ten years, but 7 under the number for the week ended July 16; they comprise 13 from bronchitis and 8 from pneumonia or inflammation of the lungs.

In the week ending Saturday, July 30, the mortality in twenty-eight large English towns, including London (in which the rate was 24·8), was equal to an average annual death-rate of 23·2 per 1,000 persons living. In Glasgow the rate was 18·3; and in Edinburgh it was 19·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·6 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·0 per 1,000, the rates varying from 0·0

in Limerick, Galway, Newry, Wexford, Lisburn, Lurgan, and Armagh, to 12·7 in Kilkenny—the 14 deaths from all causes registered in the last-named district comprise 2 from simple continued fever and 1 from diarrhœa. Among the 96 deaths from all causes registered in Belfast are 2 from typhus, 10 from whooping-cough, 2 from simple continued fever, and 10 from diarrhœa; and among the 35 deaths in Cork are 1 from typhus and 2 from diarrhœa. Of the 10 deaths in Londonderry 1 was caused by small-pox; and the 2 deaths in Dundalk comprise 1 from enteric fever.

In the Dublin Registration District the births registered during the week amounted to 180—94 boys and 86 girls—and the deaths to 209—105 males and 104 females.

The deaths represent an annual rate of mortality of 30·9 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 29·8 per 1,000.

Fifty-six deaths from zymotic diseases were registered, being 3 over the number for the preceding week and 35 in excess of the average for the 30th week of the last ten years; they comprise 22 from measles, 2 from scarlet fever (scarlatina), 1 from typhus, 3 from whooping-cough, 3 from diphtheria, 1 from cerebro-spinal fever, 2 from enteric fever, 16 from diarrhœa, 1 from erysipelas, &c.

Forty-one of the 56 deaths from zymotic diseases occurred amongst children under 5 years of age, including 21 of the deaths from measles and 14 of those from diarrhœa.

Thirty-two cases of measles were admitted to hospital during the week, being 8 under the admissions for the preceding week; 48 measles patients were discharged, 5 died, and 86 remained under treatment on Saturday, being 21 under the number in hospital at the close of the preceding week.

Eight cases of scarlatina were admitted to hospital, as compared with 3 admissions in the preceding week; 7 patients were discharged during the week, 1 died, and 30 remained under treatment on Saturday, being equal to the number in hospital on Saturday, July 23.

Three cases of enteric fever were received into hospital against 8 for the preceding week; 3 patients were discharged, and 14 remained under treatment on Saturday, being equal to the number at the close of the preceding week. No case of typhus was under treatment in hospital at the close of the week.

Sixteen deaths from diseases of the respiratory system were registered, being 4 under the average for the corresponding week of the last ten years, and 12 under the number for the week ended July 23; they comprise 8 from bronchitis and 7 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 6, the mortality in twenty-eight large English towns, including London (in which the rate was 21·7), was equal to an average annual death-rate of 22·9 per 1,000 persons living. In Glasgow the rate was 16·4; and in Edinburgh it was 17·5.

The annual average death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 24·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·5 per 1,000, the rates varying from 0·0 in ten of the districts to 6·7 in Belfast—the 103 deaths from all causes registered in that district comprising 1 from measles, 3 from typhus, 3 from whooping-cough, 1 from enteric fever, and 21 from diarrhœa. Among the 35 deaths in Cork are 1 from typhus, and 3 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 191—87 boys and 104 girls—and the deaths to 200—107 males and 93 females.

The deaths represent an annual rate of mortality of 29·5 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 29·2 per 1,000.

Fifty-seven deaths from zymotic diseases were registered, being 1 over the number for the preceding week, and 31 in excess of the average for the 31st week of the last ten years; they comprise 16 from measles, 4 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from diphtheria, 2 from enteric fever, 28 from diarrhœa, 1 from dysentery, 1 from erysipelas, &c.

Forty-six of the 57 deaths from zymotic diseases occurred amongst children under 5 years of age, including all the deaths from measles and 23 of those from diarhœa.

Twenty-one cases of measles were admitted to hospital, being 11 under the admissions for the preceding week; 29 measles patients were discharged, 3 died, and 75 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

Three cases of scarlatina were admitted to hospital, compared with 8 admissions in the preceding week; 13 patients were discharged, 1 died, and 19 remained under treatment on Saturday, being 11 under the number in hospital on Saturday, July 30.

Six cases of enteric fever were received into hospital, against 3 in the preceding week; 3 patients were discharged, 1 died, and 16 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

There were no cases of typhus in hospital at the close of the preceding week, but 5 typhus patients were admitted during this week.

Seventeen deaths from diseases of the respiratory system were registered, being 2 under the average for the corresponding week of the last ten years, but 1 over the number for the week ended July 30; they comprise 6 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 13, the mortality in twenty-eight large English towns, including London (in which the rate was 23·3), was equal to an average annual death-rate of 23·7 per 1,000 persons living. In Glasgow the rate was 18·5; and in Edinburgh it was 19·6.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·8 per 1,000, the rates varying from 0·0 in Londonderry, Galway, Dundalk, Sligo, Lurgan, and Armagh, to 9·7 in Lisburn—the 5 deaths from all causes registered in the last-named district comprise 1 from scarlatina, and 1 from enteric fever. Among the 85 deaths from all causes registered in Belfast, are—1 from scarlatina, 1 from typhus, 3 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, and 16 from diarrhœa. The 40 deaths in Cork comprise 1 from measles, 2 from typhus, and 2 from diarrhœa. Of the 10 deaths in Limerick, 1 resulted from typhus, and 1 from diarrhœa; and of the 7 deaths in Kilkenny, 1 was caused by scarlatina, and 1 by diarrhœa. The 4 deaths in Drogheda comprise 1 from scarlatina.

In the Dublin Registration District the births registered during the week amounted to 163—73 boys and 90 girls—and the deaths to 213—105 males and 108 females.

The deaths represent an annual rate of mortality of 31·5 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 30·7 per 1,000.

Sixty-two deaths from zymotic diseases were registered, being 5 over the number for the preceding week and 36 in excess of the average for the 32nd week of the last ten years: they comprise 27 from measles (an increase of 11 as compared with the preceding week), 6 from whooping-cough, 2 from enteric fever, 22 from diarrhœa, 1 from dysentery, &c.

Forty-nine of the 62 deaths from zymotic diseases occurred amongst children under 5 years of age, including 25 of the deaths from measles and 15 of those from diarrhœa.

Twenty-two cases of measles were admitted to hospital during the week, being 1 over the admissions for the preceding week: 31 measles patients were discharged, 5 died, and 61 remained under treatment on Saturday, being 14 under the number in hospital at the close of the preceding week.

There were 7 cases of scarlatina admitted to hospital as compared with 3 admissions in the preceding week: 6 patients were discharged and 20 remained under treatment on Saturday, being 1 over the number in hospital on Saturday, August 6.

No cases of typhus were admitted; 5 cases of enteric fever were received against 6 for the preceding week; 17 cases of enteric fever, and 5 of typhus remained under treatment in hospital on Saturday.

Twenty-six deaths from diseases of the respiratory system were registered, being 4 over the average for the corresponding week of the last ten years, and 9 above the number for the week ended August 6: they comprise 16 from bronchitis and 5 from pneumonia or inflammation of the lungs.

Vital Statistics

For four Weeks ending Saturday, September 10, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Aug. 20	Aug. 27	Sept. 3	Sept. 10		Aug. 20	Aug. 27	Sept. 3	Sept. 10
Armagh -	5·2	5·2	15·5	10·3	Limerick -	17·5	12·1	16·2	16·2
Belfast -	20·7	26·7	21·8	20·4	Lisburn -	19·3	4·8	19·3	14·5
Cork -	18·8	17·5	27·9	26·6	Londonderry	26·7	14·3	12·5	14·3
Drogheda	16·9	21·1	16·9	12·7	Lurgan -	5·1	35·9	10·3	20·5
Dublin -	35·0	28·8	36·8	27·5	Newry -	7·0	17·6	14·0	10·5
Dundalk -	26·2	13·1	4·4	21·8	Sligo -	19·2	14·4	33·7	19·2
Galway -	33·6	20·2	40·3	40·3	Waterford -	25·5	6·9	25·5	41·7
Kilkenny	33·8	12·7	25·4	8·5	Wexford -	42·8	42·8	21·4	21·4

In the week ending Saturday, August 20, the mortality in twenty-eight large English towns, including London (in which the rate was 21·2), was equal to an average annual death-rate of 23·3 per 1,000 persons living. In Glasgow the rate was 19·4; and in Edinburgh it was 16·9.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 26·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts

were equal to an annual rate of 7·3 per 1,000, the rates varying from 0·0 in Londonderry, Newry, Drogheda, Sligo, Lurgan, and Armagh, to 17·1 in Wexford—the 10 deaths from all causes registered in the last-named district comprising 1 from typhus, 2 from whooping-cough, and 1 from diarrhœa. Among the 89 deaths from all causes registered in Belfast are 1 from measles, 7 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 1 from enteric fever, and 12 from diarrhœa; and among the 29 deaths in Cork are 6 from diarrhœa. The 13 deaths in Limerick comprise 2 from measles; and of the 11 deaths in Waterford 3 were from whooping-cough, and 1 from diarrhœa. Of the 10 deaths in Galway 1 was caused by typhus; and 1 of 8 deaths in Kilkenny resulted from scarlatina.

In the Dublin Registration District the births registered during the week amounted to 156—86 boys and 70 girls—and the deaths to 240—130 males and 110 females.

The deaths represent an annual rate of mortality of 35·4 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 35·0 per 1,000.

Seventy-nine deaths from zymotic diseases were registered, being 17 over the number for the preceding week and 49 in excess of the average for the 33rd week of the last ten years; they consist of 27 from measles, 3 from scarlatina, 5 from whooping-cough, 4 from enteric fever, 37 from diarrhœa, 2 from dysentery, and 1 from erysipelas.

Sixty-five of the 79 deaths from zymotic diseases occurred amongst children under 5 years of age, including 26 of the deaths from measles and 29 of those from diarrhœa.

Nineteen cases of measles were admitted to hospital during the week, being 3 under the admissions for the preceding week; 22 measles patients were discharged, 3 died, and 55 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

Fifteen cases of scarlatina were admitted to hospital as compared with 7 admissions in the preceding week; 5 patients were discharged, and 30 remained under treatment on Saturday, being 10 over the number in hospital on Saturday, August 13.

One case of typhus was admitted; 6 cases of enteric fever were received against 5 for the preceding week; 2 were discharged, and 1 died. Twenty cases of enteric fever and 6 of typhus remained under treatment in hospital on Saturday.

Twenty deaths from diseases of the respiratory system were registered, being equal to the average for the corresponding week of the last ten years, but 6 below the number for the week ended August 13; they comprise 12 from bronchitis and 6 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 27, the mortality in twenty-eight large English towns, including London (in which the rate was 18·5), was equal to an average annual death-rate of 20·8 per 1,000 persons living. In Glasgow the rate was 18·2; and in Edinburgh it was 18·3.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·3 per 1,000, the rates varying from 0·0 in Londonderry, Waterford, Galway, Kilkenny, Lisburn, Lurgan, and Armagh, to 21·4 in Wexford—the 10 deaths from all causes registered in the last-named district include 5 from diarrhœa, which constitute the mortality from zymotic disease. Among the 115 deaths from all causes registered in Belfast are—1 from measles, 1 from scarlatina, 11 from whooping-cough, 2 from enteric fever, and 11 from diarrhœa. The 27 deaths in Cork include 7 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 180—91 boys and 89 girls—and the deaths to 198—97 males and 101 females.

The deaths represent an annual rate of mortality of 29·2 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 28·8 per 1,000.

Fifty-two deaths from zymotic diseases were registered, being 27 under the number for the preceding week, but 21 in excess of the average for the 34th week of the last ten years. They comprise 13 from measles (a decline of 14 as compared with the preceding week), 26 from diarrhœa, 4 from dysentery, 3 from enteric fever, 1 from whooping-cough, &c.

Thirty-six of the 52 deaths from zymotic diseases occurred amongst children under 5 years of age, including 11 of the deaths from measles and 20 of those from diarrhœa.

Twenty-eight cases of measles were admitted to hospital during the week, being 9 under the admissions for the preceding week; 19 patients were discharged, 1 died, and 63 remained under treatment on Saturday, being 8 over the number in hospital at the close of the preceding week.

There were 5 cases of scarlatina admitted to hospital as compared with 15 admissions in the preceding week; 3 patients were discharged, 1 died, and 31 remained under treatment on Saturday, being 1 over the number in hospital on Saturday, August 20.

Three cases of typhus were admitted, being 2 in excess of the admissions for the previous week; 6 cases of enteric fever were received, being equal to the number for the previous week. Nine cases of typhus and 23 of enteric fever remained under treatment in hospital on Saturday.

Twenty-four deaths from diseases of the respiratory system were registered, being 5 over the average for the corresponding week of the last ten years, and 4 over the number for the week ended August 20. They comprise 18 from bronchitis, 2 from pneumonia or inflammation of the lungs, &c.

In the week ending Saturday, September 3, the mortality in twenty-eight large English towns, including London (in which the rate was 16·6), was equal to an average annual death-rate of 18·9 per 1,000 persons living. In Glasgow the rate was 19·2; and in Edinburgh it was 17·5.

The annual average death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 27·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·9 per 1,000, the rates varying from 0·0 in Limerick, Drogheda, Dundalk, Sligo, Lisburn, Lurgan, and Armagh, to 9·5 in Dublin. Among the 94 deaths from all causes registered in Belfast are 10 from diarrhœa, 5 from whooping-cough, 3 from typhus, and 1 from enteric fever. The 43 deaths in Cork comprise 2 from measles, and 4 from diarrhœa. The 7 deaths in Londonderry comprise 1 from small-pox. Among the 11 deaths in Waterford are 1 from typhus, 1 from whooping-cough, and 2 from diarrhœa; and the 5 deaths in Wexford comprise 1 from whooping-cough, and 1 from diarrhœa.

In the Dublin Registration District the births registered during the week amounted to 208—121 boys and 87 girls—and the deaths to 254—116 males and 138 females.

The deaths represent an annual rate of mortality of 37·5 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 36·8 per 1·000.

Seventy-two deaths from zymotic diseases were registered, being 20 over the number for the preceding week, and 37 over the average for the 35th week of the last ten years. They comprise 23 from measles (an increase of 10 as compared with the number for the preceding week, but 4 under the number for the week ended August 20), 2 from scarlet fever (scarlatina), 1 from typhus, 4 from whooping-cough, 1 from ill-defined fever, 3 from enteric fever, 31 from diarrhœa, &c.

Fifty of the deaths from zymotic diseases, including 18 of the deaths from measles and 25 of those from diarrhœa, occurred among children under 5 years of age.

The number of cases of measles admitted to hospital during the week was 15, being 13 below the admissions for the preceding week, and 22 under the number for the week ended August 20—30 measles patients were discharged during the week, 3 died, and 45 remained under treat-

ment on Saturday, being 18 under the number in hospital at the close of the preceding week.

Eleven cases of scarlatina were admitted, being 6 over the admissions for the preceding week, but 4 under the number for the week ended August 20; 7 patients were discharged during the week, 1 died, and 34 remained under treatment on Saturday, being 3 over the number in hospital on Saturday, August 27.

Eight cases of typhus and 4 of enteric fever were admitted, against 3 cases of the former and 6 of the latter disease admitted during the preceding week; 13 cases of typhus and 23 of enteric fever remained under treatment in hospital on Saturday.

Twenty-seven deaths from diseases of the respiratory system were registered, being 6 in excess of the average for the corresponding week of the last ten years, and 3 over the number for the week ended Saturday, August 27.

In the week ending Saturday, September 10, the mortality in twenty-eight large English towns, including London (in which the rate was 16·7), was equal to an average annual death-rate of 18·8 per 1,000 persons living. In Glasgow the rate was 19·3; and in Edinburgh it was 18·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 23·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 7·1 per 1,000, the rates varying from 0·0 in Kilkenny, Wexford, and Sligo, to 20·8 in Waterford—the 18 deaths from all causes registered in the last-named district comprising 4 from diarrhœa, 1 from typhus, and 2 each from whooping-cough and diphtheria. Among the 88 deaths from all causes registered in Belfast are 16 from diarrhœa, 4 from whooping-cough, and 1 each from scarlatina, simple fever, and enteric fever. The 41 deaths in Cork comprise 1 from measles, 1 from whooping-cough, and 5 from diarrhœa. Among the 8 deaths in Londonderry are—1 from small-pox, 1 from enteric fever, and 1 from diarrhœa. The 12 deaths in Galway comprise 2 from typhus.

In the Dublin Registration District the births registered during the week amounted to 156—81 boys and 75 girls—and the deaths to 189—98 males and 91 females.

The deaths represent an annual rate of mortality of 27·9 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·5 per 1,000.

Seventy-three deaths from zymotic diseases were registered during the week, being 1 over the number for the preceding week, and 36 in excess of the average for the 36th week of the last ten years; they comprise 17 from measles (a decline of 6 as compared with the number for the

preceding week), 4 from scarlet fever (scarlatina), 2 from typhus, 3 from whooping-cough, 5 from enteric fever, 34 from diarrhœa, 2 from dysentery, 3 from erysipelas, &c.

Forty-two of the deaths from zymotic diseases (including 15 of the deaths from measles and 19 of those from diarrhœa) occurred among children under 5 years of age.

Thirteen cases of measles were admitted to hospital, being 2 under the admissions for the preceding week; 22 measles patients were discharged during the week, 3 died, and 33 remained under treatment on Saturday, being 12 under the number in hospital on Saturday, September 3.

Seventeen cases of scarlatina were admitted, against 11 in the preceding week; 3 patients were discharged, 3 died, and 45 remained under treatment on Saturday, being 11 over the number in hospital at the close of the preceding week.

Four cases of typhus and 2 of enteric fever were admitted; in the preceding week 8 cases of the former and 4 of the latter disease were admitted. Thirteen cases of typhus and 24 of enteric fever remained under treatment in hospital on Saturday. A case of small-pox is reported to have been admitted to hospital during this week.

The number of deaths from diseases of the respiratory system registered is 17, being 4 below the average for the corresponding week of the last ten years, and 10 under the number for the week ended September 3; the 17 deaths comprise 7 from bronchitis and 6 from pneumonia or inflammation of the lungs.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of August, 1887.

Mean Height of Barometer,	29·973 inches.
Maximal Height of Barometer (on 2nd, at 9 p.m.)	30·382 „
Minimal Height of Barometer (on 30th, at 9 p.m.)	29·295 „
Mean Dry-bulb Temperature,	59·7°.
Mean Wet-bulb Temperature,	55·6°.
Mean Dew-point Temperature	52·1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·391 inch.
Mean Humidity,	76·4 per cent.
Highest Temperature in Shade (on 8th),	78·9°.
Lowest Temperature in Shade (on 14th),	42·3°.
Lowest Temperature on Grass (Radiation) (on 14th),	38·3°.
Mean Amount of Cloud,	51·8 per cent.
Rainfall (on 16 days),	1·520 inches.
Greatest Daily Rainfall (on 17th),	·350 inch.
General Directions of Wind,	N., S., N.W.

Remarks.

The change towards less settled weather noticed in July continued through August, which proved to be rather cool, very breezy, and showery. At first, indeed, conditions were settled and the weather was dry and warm, but after the 11th rain fell in larger or smaller quantity on 14 days, and high winds from opposite quarters—chiefly from N. or S.—prevailed. In the middle of the month violent electrical disturbances occurred—particularly in England.

In Dublin the mean temperature (60·3°) was slightly above the average (59·9°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 59·7°. In the twenty-two years ending with 1886, August was coldest in 1881 (M. T. = 57·0°) and warmest in 1871 (M. T. = 62·0°). In 1885, the M. T. was only 57·1°; in the year 1879 (the cold year) it was 57·7°.

The mean height of the barometer was 29·973 inches, or 0·069 inch above the average value for August—namely, 29·904 inches. The mercury marked 30·382 inches at 9 p.m. of the 2nd, and fell to 29·295 inches at 9 p.m. of the 30th. The observed range of atmospherical pressure was, therefore, 1·087 inches—that is, a little less than an inch and one-tenth. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 59·7°, or 3·7° below the value for July, 1887; that calculated by Kaemtz's formula—viz., *min.* + (*max.* — *min.* × ·41) = *Mean Temp.*—from the means of the daily maxima and minima was 59·0°, or 0·1° above the average mean temperature for August, calculated in the same way, in the twenty years, 1865–84, inclusive (58·9°). The arithmetical mean of the maximal and minimal readings was 60·3°, compared with a twenty years' average of 59·9°. On the 8th the thermometer in the screen rose to 78·9°—wind W.; on the 14th the temperature fell to 42·3°—wind N. The minimum on the grass was 38·3° on the latter date. The rainfall was 1·520 inches, distributed over 16 days. The average rainfall for August in the twenty years, 1865–84, inclusive, was 2·877 inches, and the average number of rainy days was 15·5. The rainfall, therefore, was again below the average, whereas the rainy days were about equal in number to it. In 1874 the rainfall in August was very large—4·946 inches on 18 days—and in 1868, 4·745 inches fell on only 13 days. On the other hand, in 1884, only ·777 inch was measured on 8 days.

Solar halos appeared on the 4th, 15th and 16th. Lunar rainbows were seen at intervals on the evening of the 30th. High winds were noted on as many as 9 days, but did not attain the force of a gale on any one occasion. The atmosphere was foggy on the 3rd. Thunder was heard on the 17th; lightning was seen on the 16th, 17th and 19th. Hail fell in heavy showers on the 17th and 19th. Temperature reached or exceeded 70° in the screen on 10 days—or 7 fewer than in July.

During the week ending Saturday, 6th, an anticyclone, or area of high atmospherical pressure, passed slowly eastwards across the British Islands. The winds were at first north-westerly, and the weather was chiefly fine and dry, except in the far North. On Wednesday, the 3rd, the centre of the system lay completely over the United Kingdom, and the weather improved still further, with a rise of temperature as the southerly winds on the western side of the anticyclone spread over the country. On Friday, the 5th, a depression appeared off the N.W. of Ireland, where cloud increased and a heavy rainfall at last set in, amounting to 2 inches at Belmullet. In Dublin the sky looked very unsettled on the morning of the 6th, but only a shower fell, and the evening proved brilliant.

The earlier part of the second week (7th–13th inclusive), was characterised by very fine warm weather, except in the extreme N. and N.W., where showers and squalls prevailed. Towards the close of the period, however, a change took place, and on Friday or Saturday rain was experienced in most parts of the kingdom. At the beginning of the week, the barometer stood high in the S. of Ireland and of England, while depressions travelled eastward across Scotland, the North Sea, and Scandinavia. The prevailing winds were therefore W. to N.W., and they blew strongly in the N., lightly in the S. Monday, the 8th, was the hottest day of the summer in Dublin—the thermometer rising to 78·9° in the screen. On this day it rose to 85° in London and at Cambridge. The air also was very dry in Dublin, the relative humidity at 5 10 p.m. was only 30 per cent. On the 9th, the wind veered towards N., and a great reduction of temperature occurred. This culminated on the 14th, when even in Dublin the thermometer in the screen sank to 42·3°. The cold weather was at first unaccompanied by rain, but on Friday and Saturday, the 12th and 13th, showers fell at frequent intervals.

In the course of the week ending Saturday, the 20th, the weather over Western Europe fell into a very unsettled state. Temperature was low for the time of year. Rain fell generally, and in some places heavily, while thunderstorms of unusual severity occurred over England. The thunderstorm depressions of this period passed with their centres across England in an easterly or north-easterly direction. In Ireland, therefore, the wind was chiefly N. or N.E. Heavy thunder and hail showers occurred in Dublin and its vicinity on the 17th and 19th. On the evening of the former day an exceptionally violent thunderstorm passed over London—at Brixton the accompanying rainfall amounted to 2 inches.

During the greater part of the fourth week (21st–27th), fair dry weather prevailed in Great Britain, but in Ireland it was showery or rainy, with warm and squally S. or S.W. winds. Temperature was rather low at the beginning of this period, but afterwards rose steadily. On Thursday and Friday, the 25th and 26th, maxima exceeding 80°

were recorded in many parts of Great Britain. The highest temperature on the 25th in Dublin was 73·7°.

The last few days of the month were unsettled generally, showers and local thunderstorms being reported from all districts. On the 30th and 31st, moderate to fresh gales from S.W. occurred in the Irish Sea, the Bristol and English Channels.

The close of August witnessed the termination of the protracted drought for which the spring and summer of 1887 will long be memorable. From January 1st, up to and including August 31st, rain fell in Dublin to the amount of only 9·455 inches on but 96 days.

PERISCOPE.

ELEPHANTIASIS INDUCED BY POSTURE.

Dr. E. D. Mapother, Consulting Surgeon, St. Vincent's Hospital, Dublin, read the following paper in the Section of Pathology at the annual meeting of the British Medical Association held at Dublin, August, 1887:—"A lady, now aged eighty, has had, owing to rheumatic gout, her hips and knees so stiffened in the flexed position, that for the last seven years she has permanently kept the sitting posture. Lying on the back on a bed or on the side in a hammock became unendurable from the tenderness of the vertebral spines and shoulder prominences. The legs being thus constantly dependent, gradually developed every condition of elephantiasis. The left now measures 20½ inches, the right 17, just above the ankle fissure, which is the fittest standard point for measurement. They both show the raspberry surface of the enlarged papillæ, the soddened cuticle, especially between the toes, while in some spots a likeness to the epidermis in ichthyosis appears. A few ulcers keep open, and from them there frequently is lymphorrhœa, and occasionally a discharge of blackish matter. She is quite unable to lift either limb, owing to its weight and the weakness of degenerated muscle. About thrice yearly, but without regular periodicity, shivering, extensive redness over the legs, and hard tender streaks along the lymph vessels towards the saphenic opening have occurred, but there never has been any affection of the lymph glands. It may be noted that blockage of these paths in the ham and in the groin should respectively lead to swelling on the outer and the inner sides of the leg, but this limitation has never been observed even temporarily in the course of the disease. She has always lived with good hygienic surroundings. As factors in the production of the above case, I would rank: 1st. Posture—the lymph had to rise vertically, and the entirely inactive muscles did not compress the vessels which contained it. It therefore exuded, and

organised hypertrophying every tissue. It is in like places, far removed from the central circulatory forces, dependent and without active muscles, we meet with other examples of elephantiasis—the scrotum, prepuce, labia, pendulous breasts, and ear-lobes. In these places the recurrent inflammations are not usually observed. 2nd. Hyperfibrinosis in so rheumatic-gouty a person, would give material for the increase of all the tissues, the connective above all, whilst the lessening of red globules would slow their waste. Of parts whose increase may be readily judged, there are examples in which the femoral artery became enlarged thrice-fold, and in which the popliteal nerve was six times its usual size, the trophic fibres being presumably those most added to. Further, elephantiasis scroti must be looked on as the most astounding of all hypertrophies, for that part has come to overweigh the rest of the body. A study of the conditions which lead to the disease in tropical countries seems to me to prove it due to blockage of those subcutaneous lymphatics which are mainly active while muscles are keeping up the erect posture, and that racial and climatic influences are not potent. Coast fishermen and labourers standing barefooted in water or mud are usual victims. Their posture, liability to skin inflammation from changes of temperature and checked secretions, and spanæmic state from lowly nitrogenised food and malaria afford all the conditions favourable to lymph production, stasis, and blockage. Elephantiasis is more frequent in Ireland than in England, and with us factors like those just named exist. The evidence seems complete that this hypertrophy of every tissue arises from over-supply of lymph, over-produced or stayed in its flow. Pathological changes in some other lymph-abounding parts are somewhat analogous—for example, recurrent tonsillitis leaving much enlargement and macroglossia. Phlegmasia dolens again presents some likeness, differing however in its acuteness, non-recurrency, and the entire resorption of the effused lymph. If posture has—as is contended—much to do with the production of elephantiasis, elevation, friction upwards, and compression with elastic bandages, should be hopeful measures during the stage of inflammatory œdema. Since the above was written, Mr. Hutchinson's last fasciculus has been published. That profound pathologist states:—'As favouring the production of elephantoid conditions, it is almost essential that the part affected should be pendulous, or, as in the case of the lower extremity, at a hydrostatic disadvantage in reference to its circulation.'"—*Brit. Med. Journal*, Sept. 17, 1887.

SUDDEN DEATH FROM THE INTRODUCTION OF AN ASPIRATOR NEEDLE.

Dr. S. C. Reeve, of Dayton, Ohio, reports a case of this rare accident in the *Medical News*, January 1st. The subject was a man twenty-three years of age, who had been ill for six weeks—abscess of the liver was diagnosticated, and aspiration was determined upon. The patient asked

that an anæsthetic be given him, but was assured that the pain would be too trifling to justify it; as he expressed no alarm or anxiety no local anæsthetic was used. The patient was feeble from his long and severe illness, but changed his position, and assisted in raising his clothing. A medium-sized needle was thrust in, upward and backward to a depth of about three inches, at a point an inch to the right of the median line, and about two inches below the edge of the costal cartilages. As the stopcock was turned, attention was attracted by the heavy breathing of the patient; his head was drawn to the left, the eyes turned and fixed, and a slight convulsive tremor passed over his features; his pulse was gone; no movement of the heart could be felt; a single deep inspiration followed, a brief interval of entire cessation of respiration, and life was extinct. The time from insertion of the needle to death was not more than one minute and a half. The autopsy revealed an abscess of the liver containing eight or ten ounces of pus. The heart was apparently healthy, valves normal; the right auricle extremely distended.—*The South-Western Medical Gazette*, Louisville, Kentucky, February, 1887.

A THIRD CONTRIBUTION TO THE STUDY OF LOCALISED CEREBRAL LESIONS.

Dr. E. C. Seguin records two cases of great interest. In the first a boy, aged seven, suffered from hemiparesis most marked in the right cheek; convulsions in the right cheek; slight fever; no aphasia or choked disc. Recovery after prolonged use of iodide of potassium, which was given in enormous doses, as much as 300 grains per diem part of the time. Sixteen months later death from acute tubercular meningitis. On *post mortem* examination, besides the recent appearances due to the latter disease, a patch of simple adhesive meningitis, an inch in diameter, was found situated over the posterior end of the second frontal convolution and the adjacent part of the ascending frontal gyrus. "Taken together with other recorded cases, this case goes to support the view that in the human brain the cortical centre for the face is in the caudal end of the second frontal gyrus, where it is continuous with the precentral gyrus." The second case bears on the question of the localisation of the leg centre. A man, aged forty-nine, suffered from paresis of right leg; clonic spasm in right abdominal muscles; right hemi-epileptic attacks, commencing in abdominal muscles, then in the leg, last in the arm, none in face. Repeated similar attacks without loss of consciousness; paralysis of the right leg, paresis of right arm; no aphasia or choked disc. Death about a year from first symptoms. A sarcomatous globular tumour was found in left hemisphere "ventrad of the top of the pre- and post-central gyri, and dorso-laterad of the paracentral lobule. The growth was mainly in the white substance, but invaded the cortex, although it did not appear externally. Two very small nodules of the same new formation were found further centrad in the white substance. No other lesion in

the brain." This lesion would interrupt fibres passing from the paracentral lobule to the upper end of both central gyri. The case affords additional proof that the leg-centre is situated in the paracentral lobule, and perhaps in the upper end of the central gyri. Also that the centres for the movement of the shoulder and upper arm are seated in the upper part of the central gyri between the forearm and leg-centres. In this case the shoulder and upper arm were paralysed, while the forearm was unaffected. Further, it would show that the centre for the abdominal muscles is in the same area but nearer the leg-centre. Dr. Seguin appends summaries of two other cases, which have already been published *in extenso*. They are both cases of left hemianopsia in which the lesion was situated in the right cuneus. In one case it was softening caused by embolism of occipital artery; in the other a sarcomatous tumour. Both cases were diagnosticated during life. The tumour was removed by operation.—*Journal of Nervous and Mental Disease*, Vol. XIV., June, 1887.

OBTURATOR HERNIA.

Mr. Edward T. Thring, Petersham, near Sydney, reports a case of obturator hernia in a woman, aged sixty. Symptoms of strangulation caused him to operate five days after the symptoms appeared. The operation was unaccompanied by any unusual difficulties. "The neck of the sac was ligatured, and the sac removed, the stump being placed in the aperture. . . . Three hours after operation patient was free from pain, had passed flatus, and there was no more vomiting." On the fifth day after the operation the patient died. No *post mortem* was allowed. "There was a feeling of doubt as to whether the fatal issue was due to paralysis of the intestine and peritonitis, or to a re-engagement of a knuckle of intestine in the obturator aperture, though the balance of evidence seems in favour of the former."—*The Australian Medical Gazette*, February 15th, 1887.

CARDIAC MALFORMATION.

In a paper read on the 5th December, 1886, before the Cincinnati Academy of Medicine, Dr. E. S. M'Kee thus describes the heart of an infant, fourteen days old, that had died whilst under his care:—Heart, No excess of fluid in the pericardium. Organ of normal size, but upon examination the right auricle was found a little enlarged and the left auricle small internally, but admitting the pulmonary veins. Internally the valves were all normal. The septum between the ventricles was incomplete in its upper part, and led into a common artery representing the aorta, closed by three normal semi-lunar valves. The orifices of the two coronary arteries lay behind the two anterior valves. Both ventricles normal. Foramen ovale normal, but closing. The remains of the pul-

monary arteries consisted in an upward prolongation from the right ventricle, and a tube which opened above into the aorta was separated from the infundibulum below by a membranous septum. The aorta passed upward one half inch, and divided into two branches, the right, the larger, going above the right bronchus, having hooked beneath it the right recurrent laryngeal nerve to gain the right side of the vertebral column. The left passed above the left bronchus, curved downward, and became the descending aorta. From the right arch ascended the common carotid and the subclavian in the order named. That on the left gave off the innominate, which in time gave off the common carotid and the subclavian. It then continued as a large artery, corresponding with that on the right side, but smaller in calibre, terminating behind and below the bifurcation of the trachea in two parts, each subdividing into numerous branches, carrying the blood-supply to each lung. No trace of the ductus arteriosus could be found. Other viscera normal.—*American Practitioner and News*, Louisville, Kentucky, January 8th, 1887.

CARICA PAPAYA.

The following is an abridgment of the Report presented by the Sub-Committee appointed by the Medical Section of the Royal Society of New South Wales for inquiring into the properties of the "Carica Papaya." After describing the botanical characters of the plant, the Report mentioned that its uses as a galactagogue were fully confirmed in a communication from the Curator of the Botanical Gardens at Hong Kong, who states that the women use it there with great confidence and excellent results as a galactagogue, boiling the green fruit with an addition of two parts of vinegar to one of water. The therapeutical experiments of the Sub-Committee were made with a liquid extract containing not more than 4 per cent. of alcohol, a tincture of the ordinary Pharmacopœia strength, and a solid extract of a glutinous consistence. It was found that the mammary secretion could be abundantly stimulated in more or less dry breasts by dram doses internally, or by topical application. That even in the virgin breast it gave rise to a limpid secretion, but that its effect was transitory, being only of a stimulant character, it being required, for the healthy continuance of the secretion, that the drug be followed up by an abundance of nourishing food and the usual tonic medicines. Its galactagogue powers were repeatedly tried with good effect on the same individuals. Some cases of mammary abscess were quoted where the drug was found very useful in keeping up the secretion in one breast, while the other was under treatment. It was found that where patients were pregnant it acted as an abortant, though, doubtless, through a different physiological process than that produced by ergot of rye. The plant could be grown to perfection in Queensland and in the warm coast districts of New South Wales, but not in Sydney,

as experiments by Mr. Moore, the Botanical Curator, have shown. The experiments tried with a view to test its solvent power on meat were not considered satisfactory, but the opinion was expressed that such power as was generally attributed to the drug in this particular was exerted on the sarcolemma of muscle, the contents of the sarcous particles becoming released and exposed thoroughly to the action of the gastric juice. It was found to have no solvent action on albumen. The paper expressed the opinion that the solvent action on meat of *Papayotin*, the alkaloid, exceeded that of pepsin prepared from the pig's stomach. It was found, also, that the drug possessed considerable power as an escharotic, and several experiments in cases of warty growths were recorded confirmatory of this property. It appears that in consequence of this escharotic action, there is great danger of hæmorrhage from the stomach if the remedy be not administered after a meal. As a topical application to horny growths, it should be used mixed with borax and glycerine. The paper concluded by the expression of an opinion that it needed only a little activity on the part of the Medical Section of the Royal Society to secure from the New South Wales Government a site suitable for the growth of the innumerable medical plants now known to admit of profitable cultivation in this climate.—*The Australian Medical Gazette*, February, 1887.

TETANUS IN A BOY AGED TWELVE.

Dr. Bransford Lewis reports the death of a boy in the St. Louis City Hospital from tetanus. Some lumps of phosphorus the lad was carrying in the left pocket of his trousers having ignited, burnt the inner side of his thighs and the lower surface of his abdomen, both hands and all his fingers. Twelve days after admission he first began to show symptoms of tetanus, and two days afterwards he died. Bromide of potassium, chloral, physostigma, and arsenic were all unsuccessfully tried. The evening prior to his death his temperature was 100·9° F., pulse 125, and respirations 40.—*St. Louis Medical and Surgical Journal*, February, 1887.

ACCIDENTAL VACCINIA RESULTING IN DEATH.

Dr. Melville Jay, of North Adelaide, Australia, reports a case of death from accidental vaccination. The patient, an infant aged eight months, suffering from eczema, was sleeping in a cot with the elder child, aged two and a half, who had recently been vaccinated by Dr. M. Jay. It is supposed that the lymph came in contact with the abraded forehead of the infant, as the papules made their appearance over the supra-orbital ridges. The case progressed favourably until the fourteenth day, when the temperature suddenly rose, and in two days the child died, after having had symptoms closely resembling those of confluent small-pox.—*The Australian Medical Gazette*, January 15th, 1887.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

NOVEMBER 1, 1887.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XIV.—*Work done in Surgery by its Professors in the Royal College of Surgeons in Ireland.*[a] By SIR WILLIAM STOKES, M.D., Ch.M., Univ. Dubl., F.R.C.S.; Professor of Surgery and ex-President, Royal College of Surgeons; Senior Surgeon to the Richmond Surgical Hospital; formerly President of the Pathological Society of Ireland, &c.

IT is not of my seeking, or my will, that I occupy the position of lecturer here to-day; and it is not necessary for me to enter into any explanation as to how it has come about, beyond stating that my colleagues wished I should undertake the task, and although I have serious doubts as to the wisdom of their choice, I cannot refrain from an acknowledgment of so signal a mark of confidence on their part. It seems to me there is a peculiar responsibility and importance attached to the inauguration of this session, as we are, so to say, commencing a new dispensation. "The old order changeth, yielding place to new." We are now, in truth, ringing out the old system, and ringing in the new; and this process is fraught with consequences of the utmost gravity and importance, not alone to the student, but also to this College, the Profession, and the public at large. Owing to the union that, since the last Inaugural Address was delivered here, has taken place between this College and the other Medical Corporations of Ireland, the

[a] Inaugural Address delivered at the Opening of the School of Surgery, Royal College of Surgeons. Session 1887-88.

student in medicine has now, as you all know, to look forward not alone to Sessional Examinations, but also to a final one, conducted, not as heretofore by one, but by two of the medical authorities. From this union of our College with the other corporations I anticipate the best results. The want of such has too long been a source of weakness to our profession, has kindled feelings of mutual jealousy and distrust, and, for many good purposes, kept us divided, powerless, and weak; and although in the negotiations between the bodies many feathers have been, and still are, ruffled, and the union is not as complete and comprehensive as I trust I may live to see it, still a good beginning has been made, and I look forward with confidence to witnessing a happy reciprocity and overlapping of our work, and an approach made to that end desired by all—Unity in the Science of Medicine.

Although much hostile criticism has been devoted to the new curriculum and the sessional system of examinations—one which with certain students will always remain unpopular—still, to those who take a more far-seeing view of the situation, the merits of both must soon become apparent. As regards the former, I would allude to the accentuation of the necessity for a much larger amount than was hitherto required of what may be called extra-professional education—in the interests of the social advancement of our profession a wise provision—inasmuch as this is influenced and promoted, as has been well said, not so much by its prominent heroes as by the impulse given by the culture and mental powers of the masses in it.

The sessional system of examination authoritatively emphasises the necessity for abandoning for ever the method that formerly was too prevalent, of leaving to the last few months of pupilage all honest and earnest effort to master merely a sufficiency of anatomical and surgical details to satisfy the examiners. It is not too much to say that this system was as discreditable as it was pernicious to all concerned—students, teachers, and examiners—and it is amazing how it was tolerated by the authorities for so long a time. You are to be congratulated, instead of being sympathised with, at the extinction of such a system, and at joining the ranks of our profession when the student in medicine occupies a far different and far higher position in public estimation than formerly was the case, and when the being, so ably satirised by Albert Smith and Dickens, who, fashionably dressed, vaguely "walked the hospitals" in the morning, and subsequently, in the

afternoon, was an ardent "Fire Worshipper" in the dissecting-rooms, is no longer to be found. Such a creature exists now, I am happy to say, only in the limbo of a discreditable tradition, and is as completely extinct as the mythical Dodo.

If there are any among you who regret that their lot has fallen on these days, when frequent examination and constant toil, from the beginning of your professional study, seem to be essential to success, I would ask you to bear in mind, and take comfort in the reflection, that your present lot is not exceptional, that similar and frequent testings are found necessary for all who study other arts and other sciences with any hope of success. What would be thought of a student in engineering, or sculpture, or painting, or any other art or science, whose proficiency was never tested, and who postponed all real work at those subjects until a few months before he demanded and expected public recognition in them?

It may be said that such examinations during the different stages of your progress are like the tests and exercises of your physical powers in your training for athletic exercises. All of you are, I trust, more or less proficient in such, and know something of the frequent measuring of your powers before any of your Olympian contests. If such are found to be essential for success in these latter, is it not important that even greater precautions should be taken to insure success in the long professional contest in which the most of your lifetime will be spent? and especially is it not more so in the profession you have chosen, in which the competitors are so many, and the honours and prizes so few and far between?

In that professional work, however, both as pupils and subsequently as practitioners, you should endeavour not to be influenced solely by the principle, of which Schiller spoke so contemptuously, as actuating what he termed the Brodgelehrte, or bread scholars. But first I must guard against the possible assumption that, in referring to this passage of the great writer, I hold that there is anything unworthy in looking forward to the acquisition of professional knowledge as a means of livelihood. Such a doctrine I hold to be preposterous, and only to be classed with poets' dreams; but I would impress upon you that the Brodgelehrte principle should not be the sole or even the main motive force in your efforts, as, I am sorry to say, it is with so many. Rest assured that work done for its own sake, irrespective as to whether the results be tangible and practically useful or not, is, as a rule, the product of minds intellectually as well as morally far superior and capable of greater

acquirements than that of persons whose objects are mainly personal advancement and the accumulation of wealth. The one and nobler class illuminate the path of science with lamps which ever burn with inherent fire; the others are like the lesser stars which owe their brightness to reflected light.

In this School, as I know by pleasurable experience, the students have been, as a rule, ever animated by the three great motive forces which promote all good things—earnestness, enthusiasm, and honesty in work; and I feel confident that in the coming session, you who constitute the class of the School of this College—a School hallowed by so many worthy memories and noble traditions—will not be behind your predecessors in proving yourselves capable of honest effort; determined to be true to yourselves, true to those nearest and dearest to you, who perhaps in some instances at great personal sacrifice to themselves, have sent you here to acquire your professional training. Let one of your main ambitions be not to be haunted in after-life by the disturbing and paralysing spectres of lost opportunities; and so at once grasp the golden grains of knowledge set out before you, and, above all, keep records of what you see and what you hear, both in hospital and school. Let your motto be—"Nulla dies sine lineâ." It was said by a distinguished author—Anthony Trollope—that "students should let their work be to them as is his common work to the common labourer. No gigantic efforts will then be necessary. He need tie no wet towels round his brow, nor sit for thirty hours at his desk, as men have sat, or said they have sat." Remember that constancy in labour will conquer all difficulties—"Gutta cavat lapidem non vi sed sæpe cadendo." At once, therefore, commence to make the most of the precious but irrevocable years of student life—years as fleeting as the clouds in a summer sky, which once gone never can return—and ever bear in mind the truth of the old adage: "By the street of By-and-bye one arrives at the street of—Never."

> "Gebraucht der Zeit, sie geht so schnell von hinnen,
> Doch Ordnung lehrt euch Zeit gewinnen."—*Goethe.*

It has been noted as a peculiarity of our countrymen that they have a tendency to keep feeding their minds on the memories of bygone days, and to devote themselves to the contemplation of the achievements of their predecessors. There may be some truth in the charge; but, though the too frequent indulgence in the practice is certainly to be deprecated, it is at times not only fitting but

right to recall the work done likely to endure, and the progress made by those who have preceded us. On the present occasion, however, I shall confine myself to making a retrospect, necessarily a swift and fleeting one, of the chief surgical work accomplished by many of my predecessors in the surgical chair of this College, in which survey I have to acknowledge with gratitude the assistance I have derived from the comprehensive History of the College by my friend and colleague, Sir Charles Cameron. An apology is hardly necessary for taking this course, as the labours achieved by these masters of our art have in so many instances acted as starting points for investigation, and resulted in new departures in our knowledge of surgical pathology, and consequent improvements in surgical therapeutics. While time and subsequent research have led to the rejection of certain views promulgated here, still it must be admitted that the great bulk of the work of our surgical predecessors has been accepted and their doctrines verified; but, irrespective of their acceptance or their rejection, one great good resulted, one precious legacy they bequeathed to us, which was the great and salutary impulse to effort that actuated them—that impulse which we call progress. The history of their work is, in truth, full of inspiring memories and pregnant with far-reaching hopes, and no one who studies it can fail to become sensible of the fact of the great responsibility which is attached to those who follow even "*longo intervallo*" the steps of many of the great surgeons who made this school the arena for their labours.

William Dease, whose statue so fitly adorns the hall of this College, was the first Professor of Surgery here, was an original member of the Dublin Society of Surgeons, one of the most energetic founders of this College, and a distinguished member of the surgical staff of the Meath Hospital and County Dublin Infirmary. He was a wise and philosophic surgeon, whose works, even when read by the light of modern investigation, remain, and are rightly considered classical. They remain so, not only because they were the works of a conscientious and accurate observer, but also because they were written from, and not for, practice. His works "On Obstetrics," "On the Radical Cure of Hydrocele," "On the Treatment of Venereal Disease," and, lastly, his great work "On Injuries of the Head," would have been more than sufficient to render his name famous. He first recognised and taught the great fact in reference to the late appearance of evidence of cerebral inflammation, and its sequelæ after injuries of the head.

In illustration of this pathological fact, noted by Dease, I may briefly recall two notable instances in my own practice in the Richmond Hospital, in one of which cerebral trouble did not become apparent until eight weeks after the receipt of the injury, which was a blow from the handle of a reaping-hook. The patient had gone to the north of England for employment at harvest operations, and sustained the injury during a dispute with some fellow-labourers, who emphasised their arguments by blows. No immediate bad consequences supervened, and for seven weeks after he was able to continue his work. He then returned to Ireland, and shortly after his arrival, and eight weeks after the injury, symptoms of cerebral pressure occurred. In the second case the injury was the blow of a hammer, which was inflicted six weeks before any serious mischief was apprehended. Oddly enough, the injury in both cases was inflicted just over the situation of Broca's lobe, and as regards the symptoms also there was the closest analogy. There was evidently brain pressure in both cases, indicated by slowness of pulse, complete motor paralysis, retention of urine, myosis, and complete insensibility, but in both cases an absence of stertorous breathing. I trephined in both instances over the seat of the injury. In the first case the cranial opening was, as in a third case in which I performed the operation of trephining for intra-cranial hæmorrhage, within a hair's breadth of the source of pressure. Had I in this case the confidence in dealing with it that antiseptic surgery has now given us, I would have made other openings, and doubtless have relieved, and probably have saved the patient's life. In the second case, in which a cerebral abscess, the result of injury, was diagnosticated, and which occurred in my practice in the Richmond Hospital, last August, I was more fortunate. The patient, a young man, aged twenty-four, at the time of the operation was speechless and unconscious, the paralysis both of motion and sensation complete, together with the other evidences of pressure above noted. He had, in addition, frequent convulsive seizures, confined altogether to the right side, after each of which the insensibility appeared to become, if possible, more profound than before. The patient was clearly *in extremis*. In this apparently hopeless case, assisted by the President, and my colleague, Mr. Thomson, I trephined over the seat of the injury. On raising the flap I found that there was a fracture of the outer table of the bone, a small portion of which, about the size of a threepenny piece, was detached. There did

not seem to be any depressed fracture. I then applied the trephine and raised the bone, and on finding no evidence of effusion of any kind between the bone and dura mater experienced a veritable pang of disappointment. I then pierced the dura mater with the needle of a hypodermic syringe, and on drawing up the piston again experienced disappointment at getting a negative result. I then passed the needle deeper, but with a like result. I was then about to withdraw it, and abandon my efforts to relieve the patient, when I determined, having gone so far, strengthened by the full concurrence of my colleagues, to make one final attempt to pass the needle down as far as ever it could go. I did so, and my satisfaction was, I need hardly say, intense when, on drawing up the piston, a few drops of pus were apparent in the glass receiver. I then freely opened the dura mater, and, using the needle as my guide, sank the blade of a narrow-bladed bistoury down to the abscess, the contents of which welled up to the surface. I completed the evacuation of the abscess by passing into the cavity a piece of Indiarubber tubing, and attaching one end of it to the nozzle of a glass syringe, succeeded in drawing or pumping up the contents of the abscess. About an ounce and a half of dark grumous pus was in this way obtained. I then washed out the cavity with a warm one per cent. solution of carbolic acid, and then, leaving a drainage-tube in, replaced the flap and dressed it with sal alembroth gauze and iodoform wool. I need not give, on the present occasion, any further details, but may state that before the patient left the operating theatre his power of speech returned; in less than three hours there was a marked improvement in all the paralytic symptoms, and that ultimately the recovery was complete.

The case is remarkable and deserving of record, not only in consequence of the late appearance of the results of inflammatory mischief, but also from the fact of the satisfactory result of the operation, the case being, as far as I am aware, the second in which the operation of evacuating a deep-seated traumatic cerebral abscess was performed; the first in which it was done was in Dupuytren's celebrated case—probably the most splendid operative effort ever achieved by that illustrious surgeon. The other cases of cerebral abscess from traumatism for which trephining has been performed, have been, as far as I can ascertain, without exception peripheral. The cases above alluded to I mentioned from their being so signally illustrative of Dease's

doctrine as to the late appearance in many cases of inflammatory cerebral mischief after cranial traumatisms.

Following Dease, whose death, attended with such tragical circumstances, was such a blow to the cause of scientific surgery in Ireland, came one of the most remarkable teachers of surgery that probably ever existed here or elsewhere—I allude to Abraham Colles, whose works hardly need to be enumerated, as they are doubtless familiar to most or perhaps all of you. If asked on what I thought Colles' fame would ultimately rest, I would say first the great and salutary revolution which he effected in the treatment of syphilis, and which resulted in the abandonment of the reckless and indiscriminate use of mercury, and the advocacy of the principles that should guide us in the administration of the drug—principles now accepted by modern therapeutists of the very highest authority. In this respect Colles proved himself to be a true pioneer and clearly in advance of his time. Secondly, the graphic and accurate description of fracture of the lower end of the radius—the one which fitly bears his name—his account of it being all the more remarkable from the fact of his never having had an opportunity of dissecting an example of the injury. And lastly, the enunciation of what Mr. J. Hutchinson has designated "Colles' law," that, namely, in reference to the immunity which mothers of congenitally syphilitic infants have against infection from their offspring, an immunity not enjoyed by the nurses previously unaffected. As regards his powers as a teacher, no better proof could be given of the high estimate that was formed of them than the resolution which was passed by the College on his retirement from the Chair of Surgery. It ran thus:—"It was the unanimous feeling of the College that the exemplary and efficient manner in which he has filled the Chair of the Theory and Practice of Surgery for thirty-two years had been the principal cause of the success and consequent high character of the School of Surgery in this country." Colles was, as has been well said, "an example to all of what may be achieved by accurate observations and truthful record." With the former, many of them original, his works are replete. Some have undoubtedly been appropriated by others, but, in truth, it may be said of him in regard to his works what was observed of a celebrated French philosopher and jurist, that even when "pillaged by all, he is still rich."

Next in order came a no less eminent teacher, one who occupied a foremost place among the *dii majores* of the surgical profession.

I allude to Professor W. H. Porter, the father of my esteemed friend, colleague, and former teacher, Sir George Porter. Professor Porter's researches, carried on in the Meath Hospital, on the surgical staff of which he was for over forty years, on aneurysm, on syphilis, and on the diseases of the larynx and trachea, on which latter subject he published a work which must always be reckoned among the surgical classics, justly acquired for him a world-wide reputation; and although in one important doctrine of his, in reference to the inutility of the operation of tracheotomy in croup or diphtheria, exception may, I think, be taken—a doctrine which, having regard to the time he lived in, he, doubtless, had good grounds for holding and maintaining—still I feel confident that had he lived and worked during the present era, in which we have the advantage of many additional surgical improvements and appliances that did not formerly exist, he would have modified those views and become satisfied that the operation in the great majority of such cases not only gives great and immediate temporary relief, but that in a considerable proportion of them it is distinctly a means of saving life. This statement is based not alone on the results of statistical research, which shows that there have been $26\frac{1}{2}$ per cent. of recoveries in these cases after the operation, but also on the experience I and my colleagues have had in the Richmond Hospital.

We cannot, it is true, boast of any lengthened list of recoveries after the operation in these cases, but still there have been some, and doubtless there would have been others if the cases had been available for operation at an earlier date. But in all the temporary relief obtained was most remarkable.

As a lecturer Prof. Porter was unequalled. His earnest eloquence enthralled his pupils, and his frank and ready appreciation of what he believed to be true was only equalled by his fearless denunciation of, and scathing sarcasm in dealing with, what he believed to be untrustworthy and false. He was, in truth, no dry-as-dust a teacher. His hearers were supplied from no ancient eroded cistern or stagnant pool, for he had that power, possessed by so few, of being able to strike the rock from which came the living water.

Associated with Prof. Porter was Mr. C. Todd, the father of the eminent physician Robert Bentley Todd, of King's College Hospital, London. Mr. Todd, who was also secretary and librarian to the College, was not a prolific author, but a conscientious and

successful teacher, and his papers in the *Dublin Hospital Reports*—that mine of scientific wealth—are characterised by an essentially practical spirit. With his name must be always associated the introduction in the Richmond Hospital of the pressure treatment of aneurysm, that known as the "Dublin treatment." It was in a case of Mr. Todd's that the treatment first proved successful.

As regards the efficiency of this method of treatment, however, I cannot but think that surgical opinion is destined at no distant period to undergo considerable change, owing doubtless to the diminished risk now attending arterial deligation. In other words, I regard the treatment we have so long justly taken pride in as having originated here being, to a great extent, deposed from the lofty pedestal on which it has for so long a period fitly rested. In a large proportion of cases I believe it to be not only useless as a means of cure, but likely, if persisted in for any length of time, to militate against recovery being obtained when other and surer means of cure are subsequently adopted. In illustration of this I may instance, among others, three examples of aneurysm—one a radial, the second a femoro-popliteal, and the third a popliteal. In all three cases pressure was tried for a lengthened period and without effect. The failure, in fact, in all was signal.

In the case of the radial aneurysm I subsequently tied the artery, and this, owing doubtless to the too free collateral circulation that was established, was also unattended with success, and eventually I had to excise the aneurysmal tumour, performing the old operation of Antyllus.

The second case was a femoro-popliteal aneurysm, which was under my care so far back as August 17, 1870. In this case I commenced making pressure on the femoral artery, using alternately Read's and Carte's artery compressors, the former on the groin and the latter at the middle of the thigh. After four days and nights' continuous pressure no difference was observed in either the size or consistence of the tumour. Digital pressure was also applied for two days, but with a negative result. I then exposed the femoral and placed a temporary ligature upon it, using Porter's clamp. This was removed after fifty hours, but without any satisfactory result; and eventually, the aneurysm having become diffused, I had to amputate the limb. I feel satisfied that had a ligature been applied to the artery in the first instance, a different result could have been recorded.

In the last case I would allude to—that, namely, of popliteal

aneurysm—an instance of which has recently been under my care in the Richmond Hospital—pressure had been intermittently employed for a long period—over three months, namely—and I have no reason for supposing that it was not done with the highest degree of efficiency; but, as in the other cases, the result was unsatisfactory. The case then came under my care, and though urged by some of my surgical friends to continue the pressure treatment, I preferred, having regard especially to the latter having got, as I believe, an ample trial, to deligate the artery. There was immediate and firm union of the wound; no evidence whatever of pus production; but shortly after the operation a very distinct pulsation returned in the aneurysm, which continued for several weeks—so long, in fact, that I began to fear that the operation was not going, as far as the cure of the aneurysm was concerned, to be a success. Eventually, however, the result was eminently satisfactory. In this case, therefore, the pressure treatment not only failed to cure the aneurysm, but owing, as I believe, to the too free collateral circulation that was established as a consequence of the prolonged pressure, the recovery after the operation was distinctly retarded.

The lesson, therefore, to be learned from these as well as other cases that might be adduced is that, unless some hindrance or contra-indication exist, the surgeon who feels himself competent to perform efficiently arterial deligation, and able and willing to perform it in a thoroughly antiseptic manner, should prefer it to, at all events, any prolonged treatment of pressure, or to any of the other numerous eccentric devices that have been proposed from time to time by various persons craving for notoriety and a little ephemeral reputation, and who in this way veil their surgical incompetency under a garb of supposed originality.

Succeeding Mr. Todd came Mr. J. Wilmot, who contributed many able surgical papers to the *Dublin Hospital Reports* and *Dublin Quarterly Journal*. His fame as a surgical author will rest mainly on his work on "Diseases of the Prostate," in which he was deservedly regarded as a high authority.

The last of the occupants of the Surgical Chair of this School I would allude to is my immediate predecessor, Prof. Hargrave, who for a long series of years ably maintained its reputation and prestige. Numerous papers on many practical surgical topics bear testimony to his unceasing industry, energy, and powers of accurate observation, and finally his work on "Operative Surgery"—one

too little known and appreciated—fitly placed him in the front rank among his surgical contemporaries.

It will thus be seen that in advancing and elucidating many of the greatest and most important branches of surgery, such as, among many others, fractures, aneurysm, syphilis, injuries of the head, diseases of the genito-urinary organs, of the larynx and trachea, and also in the wide—in truth almost illimitable—field of operative surgery—subjects which have for so long a time agitated, and are still agitating, the surgical world—the occupants of the Chair of Surgery in this School have been original investigators and leaders, whose work has stood the test of time, the most of it being still and likely to continue accepted.

Briefly regarding, as we only can do on an occasion like the present, work of such rare excellence as has been achieved by our surgical predecessors here, cannot but act as a healthy stimulus to further effort, not only on the part of your teachers, but also on your part—for all, teachers and pupils alike, are or should be actuated by the worthy ambition which so largely influenced those who preceded us, which had for one of its chief objects, the maintaining the prestige and reputation of this great and time-honoured College, and the Irish School of Surgery. In the present day exceptional difficulties and obstacles doubtless exist in the advancement of our art which did not, at all events to the same extent, hamper the efforts and retard the work of those who went before us. These difficulties still exist, and are likely to continue until, in more enlightened days, they are swept away with the contempt which they so richly merit. I allude more particularly to the difficulties thrown in the way of the experimental physiologist in these countries, and to the cruel and insensate opposition made to the repeal of the Contagious Diseases Acts, both striking illustrations of how sentiment may get the better of judgment, and both mischievous products of what has been well termed the "*Lues Philanthropica*," that weak, flabby, boneless, Utopian humanitarianism now so prevalent, and that has done so much to sap the judgment, discretion, and good sense of so many men as well as women. You should look upon it as one of your great duties and privileges in the present as well as in the future, to aid in bringing about that happy era, sure to come sooner or later, when all such opposition and obstacles shall exist only among the traditions of our art, and when, to quote Graves' noble words, "the stream of knowledge, now fed by a thousand new sources,

flows along deep and rapid, sweeping away every obstruction, and defying all human opposition." Then the obscuring mists of prejudice and folly will be lifted off the ground, and dispersed as by a magician's wand, and the physician and the surgeon will not have so often to fold their arms and sorrowfully confess that they can do no more, confess that they stand baffled and powerless in the presence of disease, which, perhaps, they may have vanquished for a time, but never conquered; then the State will no longer be guilty of thwarting efforts which, if allowed to be made, would, we know, aid signally in stamping out that fell disease which is such a cruel and relentless scourge and curse to humanity, which counts more victims than cholera, small-pox, or yellow fever put together, and which spares neither age nor sex, not even the innocent child unborn.

In your professional life hereafter, if slow to accept new principles and practice, be also slow to reject them. Remember there is nothing so cheap or so nasty as senseless detraction, nothing so vulgar, so stupid and contemptible as an unreasoning scepticism, and that indulgence in either or both has not infrequently brought persons into a position at once melancholy and at the same time ludicrous. I allude more particularly to the hostility that was formerly evinced by "practical" persons to the many instruments of precision now so indispensable to every well-educated practitioner, and of late years, mainly, I regret to say, in the surgical ranks of our profession, to the principles and practice of antisepticism as elaborated by Pasteur and Lister. When we consider how recently we have heard antiseptic practice held up to contempt as little else than a fashionable, but essentially ephemeral craze, and its professors and advocates described as persons apparently temporarily afflicted with a form of harmless lunacy, which in time, and with a more extended experience, they may reasonably be expected to recover from, we have a good example of the humiliating position unthinking detractors may eventually find themselves in. Above all, keep aloof from the mischievous class of critics and professional detractors who have not themselves either the courage or ability to enter the surgical arena and do any honest work, but, like the "hurler on the ditch," who always professes to be the best player, stand at the barrier looking on with no friendly eyes—and who, should any mishap perchance occur, lose no time in spreading the welcome tidings. The story, be assured, never loses by the telling, and so the poisonous bubble, blown out by the mephitic

breath of slander and falsehood, rolls on, increasing in size and amazing all beholders, until the moment—that moment which, be assured, will come at last—of its signal, its sudden and complete collapse.

You may be well congratulated at beginning the work of your lives—that which I trust may soon prove to you all a happy toil—at a time in which the advances made and the results obtained have been so signal and so great as to justify its being termed the "Golden Age" of surgery, and to prove how rash it was even of so great a surgeon as Boyer, upwards of seventy years ago, to express his conviction and belief that surgery had already attained perfection. In dealing with the present epoch, the future historian will doubtless place in boldest relief the revolution that has taken place in the treatment of wounds, one which has been attended with such amazing results, and brought about, not by any chance or inspiration, but by the application of knowledge gained of late from three of the great sources of scientific wealth—Physiology, Chemistry, and Therapeutics.

As a proof of what we have gained in our power of warding off and disarming what are not inaptly termed "preventable" diseases following wounds, all more or less connected with septic infection, let us briefly glance at some statistics connected with comparatively recent wars, for which I am indebted to my friend, Sir William MacCormac.[a] In the Crimean War the number of men who lost their lives in the French Army was 95,615, of which only 10,240 perished at the hands of the enemy, the remainder succumbing to diseases resulting directly from their wounds. In the American War 95,000 men died from wounds, while 184,000, nearly double the number, perished from septic affections consequent on them. A remarkable change for the better was observed in the Franco-German War. In this campaign 28,282 died of their wounds, while only 12,253 died of preventable disease. But the greatest result of all yet obtained was in the Egyptian campaign of 1882, in which not a single instance of death from pyæmia, septicæmia, erysipelas, or hospital gangrene is recorded.

In fulfilling the task you have laid out for yourselves to accomplish, I trust you will be not merely steady workers, but earnest enthusiasts. I believe that in the study and scientific pursuit of our profession the highest exercises of the mind are required, and

[a] On Abdominal Section. By Sir William MacCormac. Annual Oration delivered before the Medical Society of London, 1887.

the best charities of the heart are elicited. To insure an honourable success here—by which I mean not so much the acquisition of State honours or wealth as the sympathy and good-will of your contemporaries—bind yourselves by a true and exalted line of conduct; be strong, courageous, and stern in resisting all temptation to evil-doing; cherish always the worthy aspiration that your energy in all right and honourable action may not fail, and that you may not, in consequence, fall into that hopeless quagmire of mental stagnation into which so many sink, and from which so few have power to emerge; and, above all, remember that those talents with which you have been entrusted—to some more and to others less—should not be wrongly buried in the ground, but returned with interest to Him to whom you are indebted for them. Let it be your ambition as well as your prayer that you may be ever animated by the spirit of that great and solemn obligation which the philosopher and physician, Hippocrates, the Father of Medicine, required from his pupils—"In purity and holiness I will spend my life and practise my Art." Do this, and then—

> "Shall inferior eyes
> That borrow their behaviour from the great,
> Grow great by your example."

ART. XV.—*A Visit to the Claret Country—Cheap Wine for the People.* By SIR CHARLES A. CAMERON, ex-President and Professor of Hygiene and Chemistry, Royal College of Surgeons.

AFTER a rather severe illness I spent a holiday last September in the sunny country where the best red wine of France is produced. The balmy air of the Gironde and its generous wines, combined with the influence of genial companionship, soon completed my convalescence, and I returned to my home invigorated both in mind and body. A brief account of the region to which I refer, and of its greatest industry, may prove not altogether uninteresting to the readers of the *Dublin Journal of Medical Science.* That magnificent river, the Garonne, 360 miles in length, effects a junction with another—the Dordogne—almost of as great length, and the united rivers form the wide river, or rather estuary, termed the Gironde. The largest department of France is named after the latter, which divides it from Charente Inférieure. On the east it is bounded by the Department of the Dordogne, on the S.E. by that of Lot-et-Garonne, on the south by Landes, and on the west

by the Bay of Biscay. It is almost a peninsula, and has a coast line running north and south nearly 75 miles in length. The area of the department is 3,761 square miles, with a population in 1882 of 748,703. The capital of the department is the handsome city of Bordeaux. The country between this town and the sea chiefly comprises the districts termed the Médoc, in which nearly all the claret produced in France is prepared. Below Bordeaux, the rich white wines—Sauterne, &c.—are produced.

The Médoc is a very flat country, chiefly composed of alluvial clays, but close to the Garonne and Gironde there are a series of shingly hillocks, which extend from Bordeaux to the sea. They are in some places only a few yards in width; in other parts they extend inland from a quarter to two miles. Their soil consists of sand, a large proportion of water-worn pebbles, and a small proportion of clay; in some places it is calcareous. The great plains which extend to the dunes, or sand hills of the coast, produce good crops of Indian corn, millet, and rye. The sandy and calcareous hillocks and reaches of slightly elevated land are almost wholly under the vine. In a less favoured climate they would be almost worthless, as they are little better than sand hills; yet in the Médoc, vineyards situated on them have been purchased at from £50 to £200 per acre. The vine delights in light and warm soils and in bright sunlight; and these conditions are completely fulfilled in the claret country. The stones and sand store up the heat received during the day, and long after sunset the soil round the roots of the vine is found much warmer than adjacent low-lying rich alluvial clays. Steaming down the Garonne and Gironde from Bordeaux, one sees on the left bank of these rivers such world-famed places as Chateau Margaux and Chateau Lafite, in which the finest wines in the world, I hesitate not to say, are produced. From Bordeaux to the sea, 70 miles in length, there is almost nothing to be seen in the way of crops save the vine. The finest claret is that which is obtained from the districts which lie within 40 miles of Bordeaux. In many places the vineyards extend inwards a long way from the rivers, covering hundreds and even thousands of acres. Perhaps no better proof can be given of the enormous quantity of grapes grown in the Médoc than the fact that it is only rarely a fence protects the vineyard from the public road. Even in the vicinity of towns it is usual, in the vintage season, to see the roadsides fringed with bunches of delicious grapes. There seems to be less temptation to the passer-by to pluck the clustering purple

grapes than there is to the British waysider to pick blackberries from the roadside hedge. When people talk of the adulteration of claret and other wines, they must be ignorant of the fact that there is no material so abundant or so cheap to prepare wine from as the grape. The annual production of wine in France is about 1,350,000,000 gallons.

I visited many of the celebrated wine-producing estates. On each there is a handsome chateau, generally richly furnished. As a rule they are owned by very wealthy persons—such as, for example, the Rothschilds, one of whom is the proprietor of the estate on which the well-known *Mouton Claret* is made. As much as £170,000 has been paid for a vineyard of no great extent. So well established is the character of the wine produced on certain estates in the Médoc that it is bought when quite fresh on the strength of its reputation. For example, the wine made at such a place as Chateau Lafite may be purchased when quite new at £50 per hogshead, whilst wine of older date, prepared on the property of a peasant proprietor may not realise £5 a hogshead. Here I may explain what is meant by a "first growth" claret. Growth simply means quality, or strictly speaking, character. It is only the wines produced on the four properties—Chateaux Lafite, Mârgaux, Latour, and La Rose, which are termed first growths; on other estates the wines rank as second growth, third growth, fourth growth, or fifth growth, below which last there is no classification. An immense quantity of wine is produced on estates of peasant proprietors, and even of very rich and extensive proprietors, which are not classified. It is purchased on its merits, and not infrequently proves to be better than many of the classified wines. The French Government seem anxious to encourage the wine-producers to improve the condition of their vineyards, and they annually confer a "great gold medal of honour" on the proprietor of the best-managed vineyard. This year it was awarded to Messrs. W. and A. Gilbey, the English wine merchants, who are the proprietors of Chateau Loudenne, near St. Yzans. This was the first occasion on which a foreign firm succeeded in winning this coveted prize. Messrs. Gilbey's property is situated on the banks of the Gironde, forty miles from Bordeaux, and contains nearly 600 acres. As I steamed down the Gironde I saw the Union Jack flying from the summit of one of the towers of their chateau, in the cellars of which I subsequently saw an immense number of hogsheads of claret, the produce of their own and other estates.

On examining the soils, elevation, and aspect of several of the most famous vineyards of the Médoc, I failed to discover in what way they differed from other, and what I may term commonplace, vineyards; and yet undoubtedly the wine which bears the brand Lafite or Palmer is intrinsically superior in flavour and odour to the ordinary claret. Even when a chemical analysis is made of a claret sold at 84s. per dozen, and one purchased at 12s. per dozen, very little difference can be detected. The alcohol, sugar, and extractive matter may be identical, and the only striking difference will be in the amount of free acid. As to the preparation of the wine, there is little to distinguish the process used at Lafite from that employed by the peasant proprietors. The vines are grown in rows in the field, and as a rule are not more than four feet in height. The grapes are gathered chiefly by women and children, and brought by men on a cart drawn by oxen to the wine-house. Here, by means of a machine, the stalks are removed, but occasionally this operation is not performed. The grapes, more or less crushed, with or without stalks, are pressed into a vat, the lid of which is carefully closed—a tube, however, passing through it to permit the gases of fermentation to escape. In two or three days fermentation becomes active, and immense volumes of carbonic acid are discharged through the tube, which is curved downwards, and dips just below the surface of water contained in a vessel. In a week or two the active fermentation is completed, and the *must*, as the liquid part is called, undergoes for a long time a slow fermentation. The floating masses of skins, stalks, and seeds are removed, mixed with water and a little sugar, and fermented; the produce is a low class wine, used only by the workpeople. The wine produced in the Médoc is usually kept in wood for three years before it is bottled. The term claret is exclusively applied by the British to the red wines of the Gironde, but the French word *clairet* means any red wine. The word is derived from the Low Latin, *vinum claretum*, or wine clarified with honey. It was probably this wine which in the olden time was known in England under the name of *Hippocras*. Very little French red wine, save claret, is now consumed in the United Kingdom.

The peasantry of the Médoc seem to me to be a fine race; both men and women are well developed, and a large proportion of the women are very fat. So far as I could learn they are a healthy population, and rheumatism and gout are not so common as they are in the United Kingdom. Bread and garlic are largely

consumed, and everyone, young and old, drinks wine. Workpeople are paid partly in money, partly in kind, the allowance of wine being half a hogshead or more a year to each man. As claret is in such great demand in Great Britain, the United States, Belgium, &c., most of the best wines produced in the Médoc are exported to those countries, and the people in the Gironde largely use cheap imported wines. It is well known that France is now a large importer of Spanish, Italian, German, and Algerian wines; but, as a rule, for home consumption. Some, however, of the claret produced, is so very cheap that no foreign wine can compete with it. I have heard of wine bought in the Médoc at £2 to £3 per hogshead. This cheap wine, sour though it may be, is perfectly pure.

There is a common notion that "cheap" claret differs greatly in strength from the higher priced varieties; this is an error. All clarets are "light," that is, contain much less solid matter than Burgundy, port, and sherry; but I have met with a claret at 12s. per dozen which contained as much alcohol as a specimen of Lafite or Chateau Margaux. The differences between a cheap and a dear claret are chiefly in the points of acidity and flavour. The idea that cheap claret is generally adulterated is quite erroneous, for, as I have already stated, there is no cheaper material for wine-making than the grape itself. Clarets are sometimes mixed with each other, a thin one with a full-bodied kind, for example, but this blending is perfectly legitimate and desirable.

The very low duty on wines under 30 degrees of alcoholic strength places a very small tax upon the alcohol in them; whilst an enormous duty is levied on the alcohol in whisky, gin, brandy, rum, and spirit of wine. As wine could be adulterated only with some kind of alcoholic liquid, how could it pay to sophisticate claret when the latter can be retailed pure at a shilling a bottle!

Claret contains about 10 per cent. of alcohol, and 2 per cent. of solid matter. It includes a mere trace of sugar, which proves that its fermentation has been perfected—a dietetic point of great importance. The pleasant taste and flavour are chiefly due to its richness in certain ethereal principles, and volatile aromatic oils. Its slightly rough but piquant flavour, its fragrant odour, and its magnificent colour, account for the high estimation in which millions of people hold the wine of the Médoc. I can hardly realise the idea of a man becoming a drunkard through the use of claret. In the Gironde a drunken man is a phenomenon, and yet wine enters largely into the diet of all classes. It is certain that alcohol, as a

constituent of wine, produces a less intoxicating effect than when it is taken in the stronger liquors; no doubt its physiological action is modified by the ethers and oils with which it is associated in the wine. The powerful effects of these volatile matters are shown by the fact that the mere inhalation retards the wear and tear of the body.

It must not be inferred from my remarks on the cheapness of claret that it is the only pure cheap wine in the market. In Spain and Portugal the quantities of wine produced annually are so enormous that the poorer qualities can be purchased at very low prices. The most costly port and sherry are, as everyone knows, mixed with spirit before they are exported to Great Britain and other countries. We have now port and sherry in these countries which can be bought for a shilling a bottle. Are they pure? Just as genuine as the dearest port and sherry, but containing somewhat less of added alcohol—less "fortified," to use a well-known expression. The importation of these cheap kinds of port and sherry is the result of the reduction of the duty on wines containing less than 30 per cent. of proof spirit. A short time ago I purchased specimens of port and sherry at one of Messrs. W. and A. Gilbey's branch establishments in Dublin, and submitted them to analysis. They proved to be as genuine as the most expensive wines of the kind, but they contained a little less alcohol—a difference, to my mind, wholly in their favour.

What a great difference in the prices of home-made and imported alcoholic beverages has not legislation effected! In former years whisky could be purchased at from 6s. to 8s. a gallon, whilst the cheapest port, sherry, and claret could not be bought under 48s. a dozen. In those days the duty on whisky was low, whilst wines were highly taxed. Now the stronger alcoholic liquors have a high impost fixed upon them, whilst the duties on wines have been reduced in a corresponding degree. Pure claret has long been procurable at a shilling a bottle; now, by recent legislation, the stronger wines (port and sherry) can be purchased at the same price; therefore all the ordinary wines are now within the reach of the working man. The people of England were for centuries wine-drinkers, their supplies being chiefly derived from central and southern France. The modern Briton can now revert to the custom of his ancestors, and make wine an item in his daily food. Mixed with water, the lighter kind will be found to suit many persons better than beer, owing to the more perfect fermentation of the

former; and for the dyspeptic it will generally be found more suitable than tea or coffee. It should always be taken with and not after meals. The absence of sugar from claret indicates that wine as most suitable for gouty and rheumatic persons; but there are many who prefer the warmer and more stimulating port and sherry. Although not usually mixed with water, these wines, especially the port, bear larger dilution with water than claret. I have found in the shilling a bottle port wine 29 per cent. of proof spirit and no less than 10 per cent. of solid matter. With strong working men such a wine as this could hardly fail to prove pleasant to the palate and stimulating to the system.

In conclusion, I feel convinced that if alcohol continues to be used by the people of these countries, it is best taken as a constituent of wine. We see this beverage consumed by the most temperate nations of the world, on whom it has not been shown to produce ill effects—morally, mentally, or physiologically.

THE DANGERS OF SANTONIN.

At the *séance* of January 31st ult., of the Société de Médecine de Lyon, M. Laure recited the history of a case of grave, almost fatal intoxication in a child of three and a half years of age, to whom had been administered 10 centigrams (1·5 grains) of santonin. The symptoms were excessive prostration, amounting almost to coma, interrupted by spasmodic crises accompanied by clutching at the bowels with the hands, as though in intense pain. The face was pale to lividity, the eyes cavernous, pupils widely dilated, respiration frequent, pulse rapid and irregular, but the temperature (in the rectum) remained constant and normal. The belly was distended, and tender to the touch, and the vomiting was almost constant. The urine was so deeply coloured that the mother thought that the child was passing blood. Milk, tea with rum, laxative enemata, cataplasms to the abdomen, and a tepid bath were ordered. On returning, twenty-four hours afterwards, the doctor found the child much worse. The prostration was deepening, and there had been neither alvine nor urinary discharges since he had left. On inquiry he found that the family, for some reason, had failed to carry out all of his instructions, and had omitted the clysters and the bath. He insisted upon their administration forthwith, and soon had the pleasure of seeing the flow of the urine recommence, and after copious alvine discharges (the result of enemata) improvement began. In a few days all danger was past, and a good recovery was finally made.—*St. Louis Medical and Surgical Journal*, April, 1887.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON PRACTICE OF MEDICINE.

1. *A Text-book of Medicine for Students and Practitioners.* By Dr. Adolf Strümpell, Professor and Director of the Medical Clinique at Erlangen. Translated, by permission, from the second and third German Editions by Herman F. Vickery, A.B., M.D., and Philip Coombs Knapp, A.M., M.D. With Editorial Notes by Frederick C. Shattuck, A.M., M.D. London: H. K. Lewis. 1887. 8vo. Pp. 981.

2. *A Treatise on the Principles and Practice of Medicine; designed for the Use of Practitioners and Students of Medicine.* By Austin Flint, M.D., LL.D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, &c. Sixth Edition, revised and largely re-written by the Author, assisted by William H. Welch, M.D., Professor of Pathology in Johns Hopkins University, Baltimore, and Austin Flint, M.D., LL.D., Professor of Physiology in the Bellevue Hospital Medical College, New York. London: J. & A. Churchill. 1886. 8vo. Pp. 1160.

3. *A Treatise on the Theory and Practice of Medicine.* By John Syer Bristowe, M.D. Lond., LL.D. Edin., F.R.S., Fellow and Censor of the Royal College of Physicians; Senior Physician to and Lecturer on Medicine at St. Thomas's Hospital; formerly President of the Pathological Society and Society of Medical Officers of Health. Sixth Edition. London: Smith, Elder, & Co. 1887. 8vo. Pp. 1269.

The trilogy of Text-books on Practice of Medicine which lie before us may fairly be taken as representing the German, American, and British schools respectively. At the same time, each work may separately be regarded as an exponent of a cosmopolitan Theory and Practice of Medicine, which nine sessions of an International Medical Congress have done so much to create and

to foster. Of the three volumes, two are old acquaintances—those, namely, by the late lamented Dr. Austin Flint and by Dr. Bristowe. Dr. Strümpell's Text-book now for the first time appears in an English dress, although three editions have passed through the German press, and that, too, within the short space of four years, for the preface to the first edition is dated "Leipzig: den 1 März, 1883."

1. Dr. Strümpell's "Text-book of Medicine" ("Lehrbuch der speciellen Pathologie und Therapie der inneren Krankheiten," as it is called in the original) well upholds the glorious traditions of the German school. It is the worthy lineal descendant of Felix von Niemeyer's classical and epoch-making work, which may be said to have inaugurated a new era of Practical Medicine not only in Germany but throughout the civilised world. In his Text-book, Dr. Strümpell has embodied the results of his own experience and observations during more than six years' active work in the Medical Clinique at Leipzig, where he was assistant, first to C. Wunderlich and then to E. Wagner. But he has not neglected to make use of current medical literature in addition, and in every page evidence is forthcoming that he has laid under contribution the researches of the ablest thinkers and writers on medicine.

The German edition consists of two volumes. The first includes sections on the Acute General Infectious Diseases, Diseases of the Respiratory Organs, Diseases of the Circulatory Organs, and Diseases of the Digestive Organs. The second volume is divided into two parts; of these the first is devoted to Diseases of the Nervous System, including the Diseases of the Peripheral Nerves, Vaso-motor and Trophic Neuroses, the Diseases of the Spinal Cord, the Diseases of the Medulla Oblongata, the Diseases of the Brain, and Neuroses without known Anatomical Basis. The second part, which concludes at once the volume and the work, treats of Diseases of the Kidneys, the Pelvis of the Kidney, and the Bladder; Diseases of the Organs of Locomotion, and Diseases affecting the Blood and Tissue-metamorphosis (Constitutional Diseases). This part is in the German edition "dedicated to the memory of Julius Cohnheim" ("dem Andenken Julius Cohnheims gewidmet").

Of all portions of the work, that on the Diseases of the Nervous System is by far the fullest and most comprehensive. In the English edition before us it occupies 296 out of the 945 pages

which make up the volume—that is, nearly one-third of the whole work. It would, however, be a grave mistake to assume that the other branches of Practice of Medicine are in consequence neglected. This is not so; and the success which the work has achieved in Germany has been rivalled in the United States, where it has been adopted as the Text-book in the Theory and Practice of Medicine in the Medical Department of Harvard University. The editor, Dr. Frederick C. Shattuck, alludes—in his preface to the English edition—to the addition of short notes, which are bracketed by way of distinction, and to brief chapters on "Dengue," "Yellow Fever," and "Sunstroke"—"affections which are almost or quite unknown in Germany." Surely this remark cannot be applied with accuracy to sunstroke, of which not a few instances occur almost yearly even in the insular summer of the British Islands.

The section on Acute General Infectious Diseases extends over 109 pages, and opens with an account of typhoid fever (*Typhus Abdominalis*), to which the first chapter is devoted. The student of Murchison's "Treatise on the Continued Fevers of Great Britain" will read this chapter with a feeling of disappointment, more particularly as Strümpell advocates "the persistent use of cool baths, as first practised by Brand in Stettin"—a method of treatment which has made little or no way in professional or public estimation either here or in the United States. The advantages of the treatment by baths are—1. The baths reduce temperature by direct absorption of heat, and so obviate the dangers of hyperpyrexia. 2. They exercise a direct influence for good on the nervous system, lessening the risk of the so-called "typhoid condition" setting in. 3. They benefit the respiratory organs, and prevent complications connected with them, by promoting deeper inspirations and freer expectoration. 4. The good care of the skin, which the bathing makes possible, diminishes the risk of bedsores. 5. Lastly, the baths are sometimes observed to have a diuretic effect.

As contra-indications, the author instances the occurrence of intestinal hæmorrhage, a suspicion that peritonitis is developing, great weakness or sensitiveness on the part of the patient, the presence of laryngitis, otitis, or nephritis. He admits, also, that baths are sometimes followed by severe rheumatoid pains in the limbs, or by furunculosis—what Trousseau has well called an "acute furuncular diathesis."

Strümpell's method of carrying out balneo-therapeutics in typhoid is as follows:—

"Full baths are generally employed, immersing the patient to his neck. The tub must stand, if possible, by the bedside. In hospitals where there are beds on rollers, it is a better way to wheel the patients into the bath-room. All who are severely ill should be lifted into the bath, and there held and supported, to avoid any bodily fatigue. During the bath the skin should be gently rubbed. This averts unpleasant sensations of chilliness. The temperature of the water should not be set too low, especially for the first baths. We begin at 85° to 90° (24° to 26° R.), or, if the individual be elderly or sensitive, and timid, at even warmer temperatures. When the patient has become accustomed to the temperature of the water, we can cool off the bath still further. Baths below 73° (18° to 20° R.) have scarcely ever been used by us, and we believe that they are seldom needed. A very satisfactory average temperature is 80° to 85° (21° to 23° R.). A bath lasts on the average ten minutes. If the patient feels very cold or very uneasy in the bath, it must be cut short. After the bath the patient is at once lifted into bed, wrapped up in a sheet previously made ready, and wiped dry, with rather vigorous rubbing of the extremities and back. The moist sheet is then removed. The patient is covered up rather warmly, and is given some hot broth or a sip of good strong wine. The effect of the bath upon the temperature is measured about half an hour later by (? in) the rectum. If the temperature be 2° to 3° (1° to 2° C.) lower than before, the result is deemed satisfactory. Often the difference is greater, but in severe cases the fever may be so obstinate that the temperature remits only a small fraction of a degree. In such cases it is sometimes permissible to lower the temperature of the bath still more, or continue it a little longer. If cool baths are ill-borne, protracted baths of lukewarm water are sometimes very efficient" (Riess, and others).—Pp. 21 and 22.

In this same chapter we have an instance of an indifferent translation. Speaking of rose-spots in typhoid, the author is made to say—"Rarely they are entirely absent, especially in elderly persons." The original is—"In seltenen Fällen, besonders bei älteren Leuten, scheinen sie ganz zu fehlen"—"In rare cases, especially in older people, they appear to be altogether wanting." Surely this is both a more literal and a clearer rendering. A few lines further on we meet with (to us) a completely new interpretation of the cause of *taches bleuâtres*, which are rightly described as being not peculiar to typhoid. "They are due to pediculi" ("Die selben hängen mit der Anwesenheit von Filzläusen zusammen")! Can this be a correct view? We hardly think so, our experience

being that *taches bleuâtres* are present generally in clean, not in dirty patients.

The second chapter on Typhus is even more cursory. In describing the eruption of this disease the translators have unfortunately rendered the word "Roseolen" as "rose-spots," thus causing an unnecessary and most undesirable confusion in nomenclature between the eruptions of typhoid and of typhus. "Roseola-Eruption" is the expression used by Strümpell, and this is "a roseolar rash." "Die Roseolen" should be rendered "the maculæ," the accepted term by which the typhus spots in their earlier or non-petechial stage are described by British and American writers.

Chapters on each of the Exanthemata follow. We notice that Strümpell somewhat dogmatically lays down the incubation period of measles as ten days, basing his opinion on the observations of Panum, made during the first epidemic of this disease in the Faröe Islands. Scarlatina has an incubation period of four to seven days, or sometimes shorter; while that of Rötheln—for which Strümpell's synonym is "Rubeolæ"—is vaguely given as "about two or three weeks." In our experience it is almost invariably twelve days. In variola, the corresponding stage lasts from ten to fourteen days. As to Rötheln, the author states that the prognosis is *perfectly favourable*. Yes, as a rule it is; but we have had proof that the enlargement of the glands, which so constantly accompanies Rötheln, may lead to softening and induce phthisis.

Dr. Strümpell, in writing of smallpox, uses the term "varioloid" as synonymous with "variola discreta." "Varioloid," he says, "is in no sense an essentially different disease from variola, but merely presents a milder form of the eruptive process." He adds—"Varioloid is most often observed in those whose susceptibility to the variolous poison has been diminished by vaccination." Seeing that varioloid is capable of communicating variola vera in its most malignant forms, the expediency of retaining the term in scientific medicine is more than open to question. It is curious that after all his praise of the balneo-therapeutics of typhoid fever, Strümpell should dismiss the important subject of the treatment of severe smallpox by baths with these few words:—"Under Hebra, in Vienna, continuous warm baths were employed in severe cases with great success." He would have had more to say on the subject had he read the classical and eloquent paper on the "Treatment of Smallpox," by the late Dr. William Stokes, which

was published in the number of this Journal for January, 1872 (Vol. LIII., No. 1, Third Series, page 9).

A short chapter on "Varicella" follows. It is chiefly noteworthy for the quiet yet uncompromising way in which the author disposes of the Viennese heresy touching this disease—"Noch heute hält die Hebra'sche Schule in Wien *unbegreiflicher Weise* an der Identität der Varicellen und Pocken fest"—"To this day the followers of Hebra, in Vienna, for some inconceivable reason, maintain the identity of varicella and smallpox."

In Chapter IX., Erysipelas is properly considered in close proximity to the exanthemata; and in Chapter X., Diphtheria and Croup are—as most physicians now think, correctly—described as one and the same disease—"die croupös-diphtheritische Entzündung." Chapters on "Dysentery" and "Cholera" follow, the latter containing an illustration of Koch's comma-bacillus. Strümpell's remarks on the pathology of cholera are very interesting. He holds that, at least in its early stages, cholera is merely a severe local disease of the intestine, and he suggests that the constitutional symptoms may perhaps depend on the well-known sympathy between the abdominal organs and the heart, coupled with the desiccation which the body undergoes. He regards the later so-called "cholera-typhoid" symptoms as mainly secondary, and he mentions with approval Koch's suggestion that perhaps the vital processes of the comma-bacillus create a toxic substance, the absorption of which causes in part the severe constitutional symptoms of cholera. These views are based on the fact that the comma-bacilli can be found only in the wall of the intestine, but never in the blood or the other organs—"*die Kommabacillen nur in der Darmwand*, aber niemals im Blute oder in den anderen Organen nachgewiesen werden können." (The Italics are in the original.) We confess that we are not prepared to accept this theory as finally proved, and all analogy goes to show that cholera is really one of the "Acute General Infectious Diseases," as our author has classed it.

The remaining maladies described in this portion of the work are Malarial Diseases, Epidemic Cerebro-spinal Meningitis, Septic and Pyæmic Affections, Hydrophobia, Glanders, Malignant Pustule, and Trichinosis, with chapters added in the English (American) edition on Typho-malarial Fever, Dengue, and Yellow Fever.

One hundred and forty-four pages of the book are devoted to Diseases of the Respiratory Organs. Section I., on Diseases of

the Nose, consists of three short chapters on coryza (Rhinitis), chronic nasal catarrh (Ozæna), and nose-bleed (Epistaxis), respectively. Section II., on Diseases of the Larynx, has chapters on acute laryngeal catarrh (Acute Laryngitis), chronic laryngitis, laryngeal perichondritis, such as occurs occasionally in essential fevers, œdema of the glottis, tuberculosis of the larynx (Laryngeal Phthisis), paralyses of the laryngeal muscles, spasm of the glottis (Thymic Asthma), disturbances of sensibility in the larynx, new growths, and syphilis. Section III., on Diseases of the Trachea and the Bronchi, includes chapters on acute catarrh of the trachea and bronchial tubes (Tracheitis and Acute Catarrhal Bronchitis), chronic bronchitis in its three chief forms, fœtid bronchitis, croupous bronchitis, whooping-cough (!), bronchiectasis, stenosis of the trachea and bronchi, and bronchial or nervous asthma. The position of whooping-cough—an admittedly epidemic and contagious disease—among affections of the air-passages seems anomalous. It is, however, a characteristic of the German school so to include this zymotic disease. Niemeyer did so, and now Strümpell follows his example. Most English writers, we think, will be found to include whooping-cough with the acute infectious diseases. To us it seems as rational to consider it a disease of the respiratory organs as it would be to describe typhoid fever among diseases of the digestive organs. In both cases we have to deal with a blood infection—for this is as true of pertussis as it is of typhoid—else why is it, to use Strümpell's own words, that "if a patient has once had the disease, he is almost invariably secure against a new attack." There is a good illustration of "asthma-crystals" at page 156. These pointed octahedral crystals were first discovered by Leyden in the sputum of asthmatics. They are described as identical in their chemical relations with the so-called Charcot's crystals found in the leukæmic spleen, the marrow of bones, the spermatic fluid, &c., and are said to be composed of the phosphate of some peculiar organic base. In 1872 Dr. J. W. Moore found similar crystals in the sputum of a gentleman who had been for some time troubled with gouty symptoms; but the chemical reactions obtained on close examination led to the conclusion that the crystals were composed of uric acid. This suggested a possible if not a probable cause of gouty bronchitis—the irritation, namely, of the bronchial mucous membrane by these spicular crystalline forms. A note of the observation will be found at p. 218 of Vol. I. of *The Irish Hospital Gazette*, (No. 14, Dublin, July 15, 1873).

In the fourth section, on Diseases of the Lungs, we meet with an apt simile at the commencement of the chapter on Pulmonary Emphysema. "The essence of pulmonary emphysema," writes the author, "the condition from which most symptoms are immediately derived, is the loss of elasticity in the lungs. If we compare the sound lung with its normal elastic force to a new and very tense India-rubber band, the emphysematous lung must be compared to an old and lax band that is stretched and pulled out." "As a rubber-band, by much pulling and stretching, gradually gets longer and less elastic, so the lungs, as a result of their abnormally frequent and severe distension, gradually become inelastic and emphysematous."

There is a full account of "Croupous Pneumonia" in the fifth chapter of this section. Amongst the synonyms the translators rightly include "Lung Fever," but they take very great liberty with the author when they represent him as saying—"It is generally known among the laity by the name of 'lung fever.'" The original runs—"Sic ist . . . unter dem Namen *Lungenentzündung* auch bei den Laien allgemein bekannt." "It is also generally known among the laity by the name of '*Inflammation of the Lungs.*'"

The view that Pneumonia is an acute infectious disease does not meet with full or unqualified acceptance at Strümpell's hands, although he admits that with this conception alone "all pathological appearances may readily coincide." Dr. Austin Flint, on the contrary, does accept this zymotic view without reservation, and, as we think, properly calls the disease Pneumonic Fever. To our mind the analogy between Typhoid Fever and Acute Pneumonia, or Lung Fever, is complete—in both diseases a specific contagium is introduced into the system from without—in one the virus enters the blood *viâ* the intestinal mucous membrane; in the other, the virus enters the blood *viâ* the parenchyma of the lungs.'

The sixth chapter of the same section is on the Tuberculosis of the Lungs, as a synonym of which the author gives "Phthisis Pulmonum," and as a matter of fact he seems to recognise no other form of pulmonary consumption than the tuberculous. Nay more, he seems to regard cirrhosis of the lungs (Lungenschrumfung) as merely a result of tuberculosis. "Unilateral contraction of the lungs, more frequent on the left than on the right, is *a form of tuberculosis* which is made apparent both by special physical signs and also by certain clinical peculiarities"—so writes

Strümpell. No doubt, in the ninth chapter, on "Pneumonokoniosis" (Staubinhalationskrankheiten), he says that "the anatomical changes in the 'dust-lungs' consist of a chronic bronchitis, and especially a *chronic interstitial inflammation*, leading to the formation of connective tissue." But he adds—"We very often find in the lungs co-existing and pronounced tubercular changes."

Chapter X., on "Embolic Processes in the Lungs," is followed by a short chapter on Brown Induration of the Lungs, which Strümpell aptly terms "Herzfehlerlunge," that is literally "Heart-fault Lung"—an expression which might be very well retained in English, and which is but indifferently represented by the translators' "Heart-Disease Lung."

In Section V., Diseases of the Pleura are considered, beginning with Pleurisy, which Strümpell distinguishes as primary or secondary, and divides into simple fibrinous or exudative, tubercular and purulent (empyema). "By far the most important secondary form is tubercular pleurisy." The author regards the larger number of all ordinary "pleuritic effusions" as *certainly tubercular*, although apparently primary in their origin. If substantiated by universal clinical experience, this doctrine becomes of the first importance; but may it not be that the physical conditions which are likely to supervene on an "ordinary" pleuritic effusion merely pre-dispose to a subsequent tubercular infection? The second chapter in this section gives a short but interesting description of the rare disease called "Peri-pleuritis" by Wunderlich, and of the still rarer specific infectious malady termed "Actinomycosis."

Diseases of the Circulatory Organs occupy only 60 pages of the volume. They are considered in sections under the headings, Diseases of the Heart, of the Pericardium, and of the Vessels. The cardiac affections are—acute endocarditis, chronic endocarditis, or valvular disease of the heart; myocarditis, or "infarction of the heart;" idiopathic hypertrophy and dilatation, fatty heart, and cardiac neuroses. Under this last heading he includes angina pectoris (stenocardia), nervous palpitation, and tachycardia, or a peculiar and quite rare neurosis of the heart," which "consists of an enormous frequency of the pulse, coming on in paroxysms, up to 200 beats and more a minute. As to the ætiology, Strümpell omits to mention gout as a not infrequent cause. His remarks on the therapeutics of heart disease are in the main excellent, and we are glad to find him strongly recommending digitalis as a heart-tonic. "Digitalis," he writes, "is indicated in every case of heart

disease if disturbances of compensation appear, and if the pulse also is abnormally small, of abnormally low tension, of increased frequency, and irregular." Very properly he adds a weighty and much-required caution as to the indiscriminate or too persistent use of the remedy—"Die Digitalis ist kein ungefährliches Mittel," are his words. He alludes to caffein as a substitute for digitalis in terms of approbation, but omits all mention of strophanthus, helleborein, and spartein sulphate. The translators supply the omission in the following sentence:—"To the list of drugs, the action of which is similar to those of digitalis, and for which they may be substituted, if it disagrees or is without effect, may be added helleborein and spartein sulphate (gr. 1–2). Fraser reports well of strophanthein, but a more extended use is desirable."

To one of Strümpell's alleged statements respecting the treatment of angina pectoris we take exception. In the translation he is made to say—"A subcutaneous injection of one-sixth to one-third of a grain of morphine (grm. 0·01–0·02) is the best palliative. *All the other remedies, like nitrite of amyl*, inhalations of chloroform, atropine, coniine, &c., *are uncertain.* Nitrite of sodium has been especially recommended lately." We have Italicised the words to which we take exception. But Strümpell is not quite correctly translated. The original runs—"Den besten palliativen Nutzen gewährt zweifellos eine subcutane Injection von 0·01–0·02 *Morphium.* Alle übrigen versuchten Mittel sind unsicherer (Amylnitrit, Chloroforminhalationen, Atropin, Coniin, u. a.)." "A subcutaneous injection of 0·01–0·02 gramme of morphin undoubtedly affords the best available palliative. All other remedies which have been tried (amyl nitrite, inhalations of chloroform, atropin, coniin, and others) are more uncertain," *i.e.*, "*less certain*"—a very different statement to that conveyed by the positive degree which has been substituted for the comparative by the translators.

Section II., on Diseases of the Pericardium, includes chapters on pericarditis, hydro-, hæmo-, and pneumo-pericardium. In discussing the ætiology of pericarditis, the author says that "tuberculosis plays a very important part in it."

Section III., on Diseases of the Vessels, treats of Arteriosclerosis (atheroma), Aneurysm of the Thoracic Aorta (the word being incorrectly spelled "aneurism" by the translators), Aneurysm of the other Vessels, Rupture and Narrowing of the Aorta. Congenital narrowing, first described by Rokitansky, and later by

Virchow, is met with especially in people—mostly women—who during life have shown the signs of persistent chlorosis.

Rather more than 150 pages are devoted to Diseases of the Digestive Organs, considered in seven sections. The first deals with affections of the mouth, tongue, and salivary glands. The author draws a marked distinction between aphthæ, or apthous stomatitis, and thrush (Germ. "Soor," Fr. "Muguet"). In the former malady, the white spots on the mucous membranes of the mouth are in part due to a thickening and opacity of the epithelium, and in part are said to be caused by the formation of a fibrinous exudation, which penetrates the most superficial layers of the mucous membrane. On the other hand, the microscope shows the grayish-white deposits which are developed on the buccal and pharyngeal mucous membranes in thrush, to be fungi, consisting of a multitude of oval spores, or conidia, and a tangled mass of long mycelial threads. Recent investigations render it probable that the thrush fungus is of the budding variety.

Grawitz regards it as the *Mycoderma vini*—the fungus which is present in the acetic fermentation of alcohol, when alcoholic drinks sour, and to which Rees gives the name, *Saccharomyces albicans*. The original is, "Der Soorpilz ein Sprosspilz ist (*Mycoderma vini* nach Grawitz, *Saccharomyces albicans* nach Rees)." That is—"The thrush fungus is a budding-fungus (M. *v.* according to Grawitz; S. *a.* according to Rees)." Speaking of Mumps—which is met with as idiopathic, primary or epidemic parotitis, and as secondary, or metastatic parotitis—Strümpell believes that the infectious matter reaches the gland by way of Steno's duct.

The remaining sections in this part of the work treat of diseases of the soft palate, tonsils, pharynx, and naso-pharynx, of the œsophagus, of the stomach, of the intestines, of the peritoneum, and of the liver, bile-ducts, and portal vein. Strümpell speaks highly of salicylic acid as a remedy in chronic gastric catarrh accompanied by decomposition of food in the stomach. Half a gram to a gram ($7\frac{1}{2}$ to 15 grains) should be given daily in divided doses. He also advocates the use of Carlsbad salts in gastric ulcer—a remedy for this painful disease first suggested by von Ziemssen. A tablespoonful of the salt should be dissolved in half a litre (nearly a pint, not "half a pint," as the translators give it) of water at 44° C. (about 111° F.). This solution should be drunk in three portions, within half or three quarters of an hour, in the morning before breakfast. Gerhardt recommends 3 or 4 drops of

liquor ferri perchloridi in a wineglassful of water for the relief of pain.

In the translation, the second chapter of the fifth section—that on Diseases of the Intestines—is headed, "Cholera Morbus," with the synonyms, "Cholera Nostras," "Cholera Infantum." Surely, this is most misleading; nor is there anything in the original to warrant the application of such a nomenclature to "Cholerine," for this is the malady which is described in the chapter. Dr. Strümpell headed this chapter with the words, "Cholera Nostras" (Brechdurchfall, Brechruhr). The use of the term, "Cholera Morbus" as a synonym for Cholerine seems to be an Americanism; for Dr. Flint (at page 535 of his work) observes—"The affection called cholera in its ordinary form is commonly known as *Cholera morbus.*" He, however, does not approve the term on etymological grounds, although there is no doubt that he employs it as synonymous with Cholera nostras or sporadic cholera. As to treatment, the translators question the utility of calomel on the ground that "it is not very often that a preliminary purgation is required; the bowels have usually been quite sufficiently unloaded before the physician arrives, and the indication he has to meet is to check the vomiting and diarrhœa." But we submit that calomel is given, and with advantage, in such cases, not as an aperient, but as an antiseptic, acting in this respect just like corrosive sublimate or permanganate of potassium, which are invaluable remedies in the disease under discussion.

In this same (the fifth) section there is a short but instructive chapter (VII.) on Syphilis of the Rectum. Chapter XII. is on "Intestinal Parasites," and gives a great deal of information in a wonderfully small space.

Diseases of the Peritoneum are considered in four chapters in Section IV. They are—Acute Peritonitis, Chronic Peritonitis and Tubercular Peritonitis, Ascites, and Cancer of the Peritoneum. At the end of the first of these four chapters, the translators refer in terms of warm commendation to the opium treatment of acute peritonitis, as taught and practised by Professor Alonzo Clark (see Pepper's "System of Medicine," Vol. II., page 1132). "His plan is to begin with a moderate dose of opium (gr. 2–3), or its equivalent in morphine, and note the effect after two doses; if then opium symptoms are present, the dose is to be repeated; if they are absent, the dose is to be increased by one grain, and so on, at intervals of two hours, until the tolerance of the patient is ascer-

tained." Even if "the author does not seem to be acquainted with" this variety of the opium treatment—as the translators appear to think—Professor Strümpell knows how to give opium in this terrible malady, for he advises a grain of extract of opium every hour. We regret to observe in the October number of the *Canada Medical and Surgical Journal* an obituary notice of Dr. Alonzo Clark, after a long and painful illness, at the age of 80 years. His biographer writes—"He was widely known as a strenuous advocate of the use of very large doses of opium in peritonitis. This practice, however, never became popular, and at the present time it may be said to have very few supporters."

Section VII. of this portion of the work is on Diseases of the Liver, Bile-ducts, and Portal Vein. It is most uneven—thus while five pages are devoted to catarrhal jaundice (and rightly so), and nearly six, with equal propriety, to biliary calculi, such important topics as simple atrophy of the liver, hypertrophy, fatty liver, and amyloid liver are all disposed of in one page and a third; corset liver and movable liver occupying the remaining two-thirds of the second page.

"Diseases of the Nervous System" take up the entire first part of the second volume in the German Edition, and occupy nearly three hundred (296) pages in the English Edition. Dr. Frederick C. Shattuck, the editor, says in his preface to the latter, that he is acquainted with no work which treats of the diseases of the nervous system, in our knowledge of which advance has been so rapid of late years, so fully, concisely, and clearly. This very favourable opinion we are ready to endorse. The subject is considered under six divisions—namely, the Diseases of the Peripheral Nerves, Vasomotor and Trophic Neuroses (hemicrania, progressive facial hemiatrophy, and exophthalmic goître), Diseases of the Spinal Cord, Diseases of the Medulla Oblongata (progressive bulbar paralysis; acute and apoplectiform bulbar paralysis, including hæmorrhage into the medulla and pons, embolism and thrombosis of the basilar artery, and inflammatory bulbar paralysis; and compression of the medulla), Diseases of the Brain, and Neuroses without known anatomical basis—viz., epilepsy, chorea, paralysis agitans, athetosis, tetany (Corvisart), tetanus, congenital myotonia (more commonly described as "Thomsen's Disease"), catalepsy, hysteria, and neurasthenia. This last long list bears striking testimony to the author's honesty and candour.

It would be impossible within the limits of a review to do justice

to Strümpell's treatise on nervous diseases. We can but allude to a few points in it. There is a "funny" printer's error in the opening paragraph of Section I., on Diseases of the Sensory Nerves—the word "Pelzigsein" is translated "funny feeling" instead of "furry feeling," a term explanatory of one of the forms of numbness observed in anæsthesia. Dr. J. Milner Fothergill is immortalised in the chapter on Trigeminal Neuralgia, or "Fothergill' scher Gesichtsschmerz" ("Fothergill's Face-ache"), as Strümpell calls this painful affection. The distinction between *paralysis* and *paresis* is well put at the beginning of the second section, on Diseases of the Motor Nerves—"By paralysis we mean the loss of voluntary motion in the muscles of the body controlled by the will. We usually distinguish between the complete loss of the power of active motion, paralysis, and the mere weakening of it, paresis." The German synonyms are very expressive—"Lähmung" and "Schwache."

At page 506, under the heading "General Ætiology of Paralysis," there is a concise summary of the causes which lead to paralysis. They are—(1) all diseases of the nervous system which damage, or destroy, the paths of motor conduction; (2) mechanical lesions of the nervous system, such as injuries, compression of the brain, spinal cord, or peripheral nerves by swellings or new growths; (3) toxæmiæ, the result, for example, of absorption of lead, copper, arsenic, and so on; (4) acute diseases and fevers, for example, diphtheria; (5) chronic infectious (? contagious) diseases, such as syphilis and tuberculosis; (6) exposure to cold, giving rise to "refrigeratory" or frequently "rheumatic" paralysis; (7) functional disturbances, as in hysteria, fright, imagination; (8) "reflex inhibitory" paralyses.

Chapter II. of this section, on the different forms of peripheral paralysis, is illustrated by a series of excellent drawings, showing the appearances in facial palsy, paralysis of the serratus magnus, drop-wrist (radial, or musculo-spiral, paralysis), and the *main-en-griffe* of Duchenne (from ulnar paralysis). There is also a very instructive schematic representation of the trunk of the facial nerve from the base of the skull to the *pes anserinus*, showing the different localisations of the lesions in paralysis of that nerve.

Chapter III. treats of the various forms of localised spasm, such as trismus (tonic spasm of the muscles of mastication), convulsive tic (clonic facial spasm), "salaam convulsions" in bilateral clonic spasms of the spinal accessory (circumflex) nerve, the "saltatory

reflex spasm" of Bamberger; singultus, or clonic spasm of the diaphragm, and so on. A short chapter (IV.) gives an account of "Writer's Cramp," or *mogigraphia* (from μόγος, "toil"), and allied professional neuroses, like piano-players' cramp, and, in the lower extremities, ballet-dancers' cramp.

Under the heading "Vaso-motor and Trophic Neuroses," an account is given of the peculiar diseased conditions known as "acute angioneurotic œdema," of Quincke, Strübing, and others, "myxœdema" of Gull and Ord, hemicrania, "progressive facial hemiatrophy" of Romberg (a case of which was reported by the late Dr. W. D. Moore, of Dublin, in this Journal, so long ago as the year 1852—Vol. XIV., page 245); and Graves's Disease, or Exophthalmic Goître. The last-named is, of course, called by Strümpell "Basedow'sche Krankheit," with the synonym "Morbus Gravesii." The German name for it is expressive—"Glotzaugenkrankheit," or goggle-eye disease. Strümpell candidly admits Graves's priority of description, for he says "the special group of symptoms to which the name of exophthalmic goître has been given, and whose three cardinal symptoms are acceleration of the pulse, goître, and exophthalmus, was first carefully described in Germany, in the year 1840, by the Merseburg physician, Basedow, although similar but less precise observations had been published in England by Graves five years earlier."

The Diseases of the Spinal Cord are considered in chapters on diseases of the spinal meninges, disturbances of circulation, hæmorrhages, functional disturbances, and traumatic lesions of the cord, pressure-paralyses of it, acute and chronic myelitis, multiple sclerosis of the brain and cord, locomotor ataxia, amyotrophic lateral sclerosis, progressive (spinal) muscular atrophy, the so-called "spastic spinal sclerosis," acute and chronic poliomyelitis, acute ascending spinal paralysis of Landry, new growths of the cord and of its membranes, the formation of cavities and fissures in the cord, secondary degenerations, and unilateral lesion of it, or Brown-Séquard's *Spinal Paralysis*. In the chapter on Locomotor Ataxia, Dr. Strümpell gives the name of "reflex immobility of the pupils with retained mobility on accommodation" to the well-known condition described as the "Argyll Robertson pupils."

Diseases of the Medulla Oblongata include progressive bulbar paralysis (Glosso-labio-laryngeal Paralysis) of Wachsmuth, first described by Duchenne, of Boulogne, in 1860; acute and apoplectiform bulbar paralysis, from hæmorrhage into the medulla oblongata

and the pons Varolii, or the result of acute bulbar myelitis; and compression of the medulla.

Diseases of the Brain are grouped in sections on diseases of the cerebral meninges (hæmatoma of the dura mater; purulent meningitis, or purulent cerebral leptomeningitis—also called "meningitis of the convexity;" tubercular or basilar meningitis; and thrombosis of the cerebral sinuses); and diseases of the brain substance. The latter group include cerebral anæmia and hyperæmia, cerebral hæmorrhage, embolism and thrombosis, inflammation of the brain, sunstroke or "thermic fever;" tumours of the brain, cerebral syphilis, progressive general paralysis of the insane (Paretic Dementia), chronic hydrocephalus, and Ménière's Disease. In this section also there is an excellent chapter on the Localisation of Cerebral Diseases, containing some very instructive illustrations.

The "Neuroses without known anatomical basis," which Strümpell describes, are—epilepsy, chorea, paralysis agitans (the "shaking palsy" of Parkinson, 1817), athetosis of Hammond (1871), which is beautifully illustrated by a series of four drawings; "tetany" of Corvisart, tetanus, "congenital myotonia" (which is the author's name for the curious congenital neurosis described by Thomsen, of Schleswig, in 1876); catalepsy, hysteria, and the neurasthenia of Beard, the American neurologist; or "nervous debility," as the translators more aptly name this modern and fashionable malady.

Diseases of the Kidneys, the Pelvis of the Kidney, and the Bladder, form the next topic for discussion, and take up rather more than seventy pages in the translation. Then come Diseases of the Organs of Locomotion, commencing, strange to say, with "acute articular rheumatism," which the author is made to say "is *an infectious disease*." Surely, this is not a correct translation of the original—"Der acute Gelenkrheumatismus ist eine *Infectionskrankheit*," "Acute rheumatism is an *infective* disease," that is, a disease which depends on the introduction into, or the elaboration in, the blood of a morbific agent or virus. It is notorious that rheumatic fever is not communicable or infectious.

This great work closes with a description of the diseases which affect the blood and tissue-metamorphosis, the Constitutional Diseases. Under this head we have anæmia and chlorosis (for which latter form the word "oligocythæmia" is a much more scientific term), progressive pernicious anæmia, or essential pernicious anæmia, leukæmia, pseudo-leukæmia, or Hodgkin's Disease (the "adénie" of Trousseau), hæmoglobinæmia and hæmoglobi-

nuria, scurvy, purpura or peliosis (Morbus maculosus Werlhofii), hæmophilia, diabetes mellitus, diabetes insipidus, gout, obesity, and scrofula—the last named is considered "merely from a practical standpoint. From a scientific point of view, scrofula is not to be regarded as any special variety of disease."

Two appendices conclude the translation. The first gives a brief summary of the symptoms and treatment in cases of poisoning; the second contains a table of weights and measures. In the original there are three appendices. "Anhang II." includes a number of formulæ and a list of Baths and Health-resorts (Kurorte). "Anhang III." gives the maximal dose of the more active official preparations.

We should not omit to mention that a very copious index is appended to the translation. There are few omissions—one, at least, we noticed, namely, Friedreich's disease, which is described at page 612.

[*To be concluded.*]

The Rectum and Anus: their Diseases and Treatment. By Charles B. Ball, M.Ch. Univ. Dubl.; F.R.C.S.I.; Surgeon to Sir Patrick Dun's Hospital; University Examiner in Surgery, &c. With 54 Illustrations and 4 Coloured Plates. London: Cassell & Company. 1887. Pp. 410.

Among the many books sent to us for review, chiefly from the pens of authors on the other side of the water, it is pleasant to turn to one deserving of unstinted praise—the work of a Dublin man and a well-known Irish surgeon. It is to be regretted that so little has been done in the field of medical literature by the Irish school of surgery during the past twenty years, and we are therefore the more gratified to find a work before us such as "The Rectum and Anus" by Mr. C. B. Ball, of which we can truly say that it well sustains the best traditions of the past.

The author apologises for adding one to the already long list of works upon the diseases of the lower bowel, but the reader who carefully peruses its pages will find so much of novel interest and originality that he will soon come to the conclusion that no such apology is needed.

In Chapter I. the author deals with the diagnosis of rectal disease, and lays special stress upon the valuable assistance rendered to both the diagnosis and treatment of rectal disease by forcible dilatation of the sphincter. This we believe is a point but too

seldom enforced. The pain which follows many rectal operations would be almost abolished were forcible dilatation more frequently resorted to. At page 10 an excellent description is given of the method by which this should be carried out. Partial paresis of the sphincter usually lasts for a week—a great desideratum in the treatment of operation cases. Mr. Ball considers that this temporary paresis is probably due both to alteration in the muscular fibres themselves and to changes in the nerves supplying them. This altered innervation he considers is similar to that produced in muscles by stretching the nerves supplying them.

In Chapter II. the congenital malformations of the rectum and anus are discussed fully. At page 35 a variety is described in which "the anus is completely absent or rudimentary, and the rectum terminates in a cutaneous opening at some other situation than the normal one." He specially calls attention to those cases in which the rectum opens through a perforation in the sacrum. He considers that this condition can be accounted for on embryological grounds, and we certainly think that he has made good his case. In the lower vertebrates there is a distinct communication between the mesenteron and neural canal known as the neurenteric canal, which, when the communication with the neural canal is cut off, constitutes a prolongation backwards of the intestine behind the anus. This post-anal gut, or *parscaudalis intestini*, is, for several reasons, supposed to indicate the ancestral form, whilst the anus as at present found in the vertebrates is of comparatively recent evolution.

Another point in this chapter which calls for special recognition is the treatment proposed for cases of atresia ani vesicalis in which the rectum opens into the bladder. Mr. Ball dissents entirely from the practice proposed by M. Martin, of Lyons, of incising the neck of the bladder, as in lithotomy, and then continuing the incision into the rectum. He advocates as a more scientific procedure to perform laparo-colotomy, to cut the colon completely across, to closely suture up the lower end after inversion of the serous membrane, and to bring the upper end out at the wound to make an artificial anus.

At page 58 we find the author's views on the antiseptic precautions to be taken in operations involving the rectum:—"In the more severe operations, such as extirpation of portion of the bowel, or extensive incisions implicating the rectal wall, septic infection is not infrequent, so that it is necessary for the surgeon to adopt the fullest

antiseptic precautions." We believe that these may be carried out even more thoroughly than proposed by the author. By cleaning out the bowel thoroughly beforehand, and then by means of opium keeping it in a quiescent state, it is quite possible so to apply antiseptic precautions that union by first intention is attained before the disturbing influence of fæcal evacuations occur. In excision of the rectum we are glad to find that Mr. Ball now advocates the practice of suturing the mucous membrane to the skin, as recommended by Volkmann and Czerny. At page 345, in discussing this question, he advises that the sutures should be passed deeply through the surrounding pelvic structures, as well as through the mucous membrane and the skin—a method by which the formation of cavities external to the rectum is avoided. This is in accordance with the system of buried sutures so strongly advocated by Neuber, and which has proved of the greatest service in almost all operation wounds.

In the chapter on Rectal Fistula Mr. Ball very properly objects to the time-honoured terms of "blind external" and "blind internal" fistulæ, as being misleading. He adopts by preference the terms "external and internal rectal sinus." He considers that when an internal fistulous opening is secondary to an abscess external to the rectal wall the position of the opening depends upon whether the abscess be superficial to or deeper than the levator ani muscle. If superficial to the muscle, the perforation takes place in the neighbourhood of the insertion of this muscle; but when the abscess is above the muscle, the abscess may separate the rectum from its loose connections for a considerable distance, and may perforate it almost at any point. In these latter cases the cutaneous orifice is usually situated posteriorly; in the former case the opening is most frequently lateral.

In Chapter XIII. the subject of prolapse of the rectum is very well discussed. The author strongly recommends Van Buren's method of treatment by the cautery—that is, the formation of linear eschars parallel to the axis of the bowel extending from a point three inches or more above the anus, down through its orifice, and terminating externally where the delicate integument covering the sphincter joins the true skin. This is the place now generally preferred by most surgeons, as it does not give rise to a subsequent stricture of the anus like some of the other methods of cure—a remedy which is worse than the disease.

Chapter XIV. deals with the ætiology of piles, and is interesting

reading. The author's view is that the commonest predisposing cause is the erect position in man. "There is no similar disease, so far as I am aware," he writes, "known amongst quadrupeds." He then proceeds to show how the arrangement of the blood-vessels in the rectum specially favour the formation of piles in the erect position. Mr. Ball combats the view that an external pile is due to a blood-clot surrounded by inflamed tissue. He has several times been able to demonstrate that it was formed by a thrombosed vein. He proposes the term "compound external pile" for the pile, usually the size of a filbert, which consists chiefly of *several* thrombosed veins surrounded by connective tissue.

Facing page 242 are admirable chromo-lithographs representing respectively prolapsed gangrenous and prolapsed inflamed piles. We entirely endorse the practice recommended by the author of immediate operation on strangulated and inflamed piles. We believe there is no valid objection to this practice, and it relieves the patient of severe and prolonged pain.

In Chapter XIX. the operative treatment of internal piles is discussed, and Mr. Ball expresses his views as to the relative value of the various methods. Electrolysis he speaks favourably of for small nævoid piles. Ligature still retains with the majority of surgeons its popularity as one of the best methods of treatment—Salmon's method of dissecting up the pile and ligaturing the pedicle above being specially recommended. Crushing, excision, and the clamp and cautery have each their advantages, and are extolled more or less by Mr. Ball. The method by injection Mr. Ball has never tried, and condemns. He objects to it because "it necessitates a three months' treatment, while in the hands of others it has been neither devoid of danger nor successful in producing a complete cure, and in some cases is attended with very severe pain." Before putting such wholesale condemnation in print it is a pity that the author should not have taken any means of personally verifying the statements he makes. The three months' treatment simply means this, that this method of curing piles is proposed in order to allow the patient to attend to his business during the process of cure without being obliged to lie up for even a day. With this object in view only one pile is injected at a time, and when it has sufficiently progressed towards cure another is similarly treated. It is thus possible to prolong the treatment for three months. If, however, all the piles in even a bad case are injected at the same time, the patient is obliged to stay in bed, but he will generally be

able to go about in a week or ten days. When pure carbolic acid is used, and care is taken to inject it into the pile and not to allow it to escape over the surface, the treatment is almost quite painless; it is efficacious and rapid. Mr. Ball considers that in uncomplicated cases the operative treatment of piles is a radical cure. He has observed in cases where a few small piles had been removed from an intensely congested rectum, with spongy mucous membrane, that some months later it will usually be found that the mucous membrane has quite regained its normal condition. He suggests that the beneficial effect may be due to an anastomosis between the larger vessels taking place in the cicatrices.

Chapters XX. to XXIV. are devoted to the various kinds of tumours met with in the rectum, and their treatment. Chapter XXV. deals with colotomy. He objects to the operation *à deux temps*, chiefly on the hypothesis that the drawing out of a loop of intestine will aggravate the symptoms of obstruction—an objection which we think is problematical. When severe symptoms exist, no surgeon would delay opening the bowel at once, but when the operation is performed in good time, and the symptoms are not urgent, experience has shown that the two-stage proceeding has many advantages. At page 366 he describes his colotomy clamp, an instrument of undoubted use in the operation of laparo-colotomy—a form of procedure to which Mr. Ball is particularly partial.

In a book dealing with such an extensive subject it is hardly to be expected that there should be no omissions or errors. Still we must say that they are very few. We shall call attention to only one of each. In dealing with the treatment of cicatricial stricture of the bowel, no allusion is made to the electrolytic method of dilatation, or rather we should say of dissolution, and yet this method has met with success in stricture of the rectum. Again, at page 6, the retractor depicted in the wood engraving is described as Hegar's, whereas it is really known as Kristeller's spoon speculum.

The book before us forms one of Cassell & Co.'s series of handbooks. The general get up of the book is therefore familiar to most surgeons. We will add that the coloured illustrations are exceptionally good. The writing is throughout clear and masterly, and contemporary authors are fully and impartially recognised. We congratulate Mr. Ball on having produced a book which will occupy high rank among works dealing with this particular department of surgery.

RECENT WORKS ON MATERIA MEDICA AND THERAPEUTICS.

A Text-book of Organic Materia Medica. By Robert Bentley, M.R.C.S., F.L.S. London: Longmans, Green, & Co. 1887.

Professor Bentley has been so long identified with Botany and Materia Medica, and has had such long experience as a teacher in these subjects, that we may rely with confidence upon the practical and scientific value of any production from his pen.

The present volume is intended as a guide to the study of the drugs derived from the animal and the vegetable kingdoms. Being addressed especially to students of pharmacy, particular attention is devoted to the *pharmacognosy* of the drugs. The therapeutical information is scanty, and indeed insufficient for the wants of the medical student.

The text is illustrated by more than sixty woodcuts, good as a rule, and in several instances helpful in discriminating between officinal drugs and their sophistications. We have no doubt that the book will win acceptance with pharmaceutical pupils as a trustworthy and concise elementary treatise upon the organic Materia Medica.

Thomson's Conspectus: adapted to the British Pharmacopœia of 1885. Edited by Nestor Tirard, M.D. Lond. New Edition. London: Longmans, Green, & Co. 1887.

An old acquaintance reappears under new sponsorship, and the Editor has endeavoured to bring the book into accordance with the B. P. of 1885, as well as in other respects up to date. Those who are fond of books of the dictionary-type, and like to get their information in the most abbreviated form, will find this little volume acceptable and, so far as it goes, fairly reliable. The appendices include notices of the more important non-official drugs and preparations, a short treatise upon poisons, and brief directions as to prescribing, together with examples of prescriptions.

The Prescriber: a Dictionary of the New Therapeutics. By J. H. Clarke, M.D. Edin.; Physician to the London Homœopathic Hospital. Second Edition. London and New York. 1886.

An unbeliever in homœopathy can scarcely pretend to review a book based upon a system of therapeutics unacceptable to his intelligence, and in which dozens of remedies are mentioned of

which he unfortunately knows nothing. It appeals, moreover, not only to students and younger practitioners, but also to that numerous class of amateur practitioners for whom, "*when they have made out the condition they have to treat* (!), a reference to 'THE PRESCRIBER' will show at once the medicine, dose, and frequency of repetition of dose, most likely to be of service" (Preface). The book contains an alphabetical index of Diseases and Remedies; and for the enlightenment of our readers we append two samples of its contents :—

"1. *Abdomen, Distended.*—In fat, scrofulous children, *Calc. c.* 6, 6h. In thin, rickety children, *Silic.* 6, 6h. When due to worms, *Cina* 1, 6h. If due to flatulence, with constipation, *Lyc.* 3, gr. ii.—6, 6h. If from flatulence, with great pain, the bowels being open or loose, *Dioscor.* ϕ, 6h. Hysterical distension, *Ign.* 3x, 2h.

"2. *Depression of Spirits and Melancholia.*—From worry; or at the change of life, *Ign.* 1x—3, 6h. Melancholy, restlessness, irritability, anxiety, anguish, *Ars.* 3x—3, 6h. Prostration, unappeasable restlessness, convulsive trembling, *Tarent.* 3x, 6h. Religious melancholy, with constipation, *Plumb. acet.* 3, gr. ii.—6, 6h. Depression, with pain at the heart, *Spigel.* 1—3, 6h. Suicidal melancholia, *Aur. met.* 3, gr. iii. 8h. Depression, timidity, taciturnity, aversion to society; from sexual causes, as enforced abstention, *Con.* 1x, 6h. Sadness during the menses; depression with palpitation on lying down at night, or after food, *Nat. m.* 3, gr. ii.—6, 6h. Nymphomania, *Plat.* 3, gr. ii.—6, 6h. Acute melancholia, *Bell.* 1x, 3h. Melancholia after typhus fever; and in girls at puberty, *Hell.* 1, 3h."

Medical students may be glad to hear of a remedy for "loss of memory, 'funk,' before an examination—*Anacard.* 3x, 3h."

An Introduction to the Study of Embryology. By ALFRED C. HADDON, M.A., M.R.I.A.; Professor of Zoology in the Royal College of Science, Dublin. Illustrated. London: Charles Griffin & Co. 1887. Pp. 336.

THERE is probably no subject requiring more painstaking investigation, and the honest life-work of more specialists, than embryology, and even then the progress made is by slow, very slow, degrees; as in embryology there is but little room for theories, each fact requiring to be worked out separately, one developmental history after another, from the common ground of the oosperm to the myriad and widely differing adult forms, being painfully traced out, every alteration of each organ being noted, and it is only as

numbers of these observed series of facts arrange themselves in order that their mutual relations become apparent.

To write a readable handbook on such a subject is by no means an easy task; the mass of recorded observations is great, the gaps in the scheme to which they belong are wide, and it is necessary to connect the observations without concealing the gaps. This difficult task has been performed with great success by Dr. Haddon, the progress made, the further progress required, and the bearing of the knowledge already gained being all clearly pointed out.

The gradually increasing interest in the evolution of disease, and the growing belief that, just as the developmental history of the individual recapitulates the history of the race, so also the path of evolution of the individual throws a light on the evolution of many of the diseases to which he is subject, render a complete handbook of importance to medical men. And such a handbook Dr. Haddon has supplied, notwithstanding that in a short preface, with characteristic modesty, he makes little of his work by expressing the hope that a "small work giving a general review of the subject may prove of use to students." Dr. Haddon has certainly produced a book which will be of use to students, but he has done more—he has written the best of the three modern English works on the subject.

Chapter I. deals with the Maturation and Fertilisation of the Ovum, the changes preparatory to fertilisation being very clearly described.

Chapter II. deals with Segmentation and Gastrulation. A very clear description is given of the so-called "indirect method" of cell-division (karyokinesis). In describing Syncytial Segmentation, as observed by Sedgwick in "Peripatus Capensis," the author seems to lean to the belief that the complete division of an ovum into distinct segmentation spheres is apparent rather than real, and that it may yet be proved that a continuity of protoplasm through pores renders all such segmentation syncytial. This speculation is rendered more probable and more interesting by M. Olivier's discovery (through selective staining and by enlargement of photo-micrographs) of the continuity of protoplasm not only in leaves of Mimosa, but in many other plants.

Chapter III. is on the Formation of the Mesoblast; Chapter IV. on the General Formation of the Body and Development of the Embryonic Appendages. The author appears to favour the view that the neural aspect of the body in vertebrates is identical with that of invertebrates, in which case the terms dorsal and ventral

would have opposite meanings as ordinarily applied in the two groups.

The next three chapters are on the organs derived from the Epiblast, the Hypoblast, and Mesoblast, and the last chapter is entitled "General Considerations." The subject of reproduction is here dealt with, and, amongst other things, the author clearly shows that the essential act of fertilisation does not consist in the fusion of elements which differ in kind, but merely in the sudden accession of a store of energy, which enables the ovum to segment and build up a new individual. This explains in great measure the occasional occurrence of parthenogenesis, and connects the reproduction of plants and animals, all fertilisation being a conjugation of similar tissues, each more or less altered in structure.

There are two appendices—the first gives the system of classification adopted in the book, all the genera alluded to being included; the second contains, in twenty-six large pages, a bibliography of recently published writings on Embryology—most are of later date than 1880—the reader being referred to Balfour's treatise for a record of the more important earlier papers. The table of contents, list of illustrations, and index, are all full and carefully drawn up.

The scientific spirit in which Dr. Haddon writes can best be illustrated by a quotation from his own pages:—"Suggestions as to the possible significance of observed embryological facts must be held only in the most tentative manner. It is easy to frame plausible theories respecting the evolution of organs, or of the animals themselves, but great caution is necessary in accepting them, and, at best, they should be regarded as merely working hypotheses."

A Practical Treatise on Diseases of the Eye. By Dr. Edouard Meyer (Paris). Translated from the Third French Edition, with additions as contained in the Fourth German Edition, by Freeland Fergus, M.B., Ophthalmic Surgeon, Glasgow Royal Infirmary. London: Griffin & Co. 1887. Quarto. Pp. 637.

This is an excellent translation of a well-known standard work, originally published in French fifteen years ago. The author states in his preface that it was written for the purpose of replacing, in the hands of the French students, an English treatise—Wharton Jones's celebrated work on the Diseases of the Eye—which had been translated into French, and was generally used in France.

The book has since then gone through three French and four

German editions, and has, besides, been translated into Italian, Spanish, Polish, Russian, and Japanese. It may therefore be assumed that it has proved its right to exist by the sure test of continued popularity.

The book does not pretend to be a complete treatise on the subject of ophthalmology, but rather a practical work, compiled in the main from the author's lectures at the École Pratique de la Faculté de Médecine de Paris. It will, therefore, not unnaturally be found deficient in some of the more abstract questions. Its strong points are the treatment of diseases, and the descriptions of operations—57 pages are devoted to Cataract Operations alone. It is, therefore, with some surprise that we notice that no mention whatever is made of several of the more modern methods of treating various affections of the eyelids. Under Trichiasis no mention is made of electrolysis as a treatment, though the galvano-cautery and chemical caustics are mentioned; nor is there any mention of the transplantation of mucous membrane from the lip in cases of entropion with trichiasis; and Argyll Robertson's operation, which has yielded such excellent results in our hands, as in the hands of others, is not even alluded to, though a vast number of obsolete and rather useless proceedings, with the same object, are described at much length.

The chapters on Refraction and Accommodation are clearly and concisely written, and are more easily followed than similar chapters in many other text-books that have come into our hands. We note, however, that the diagrams at pages 391 and 405, showing the path of a ray of light refracted by a convex lens, do not agree as to the method in which the lens influences the ray passing through it; in one case the whole of the alteration in the path of the ray is represented as produced by the surface of the lens on which the ray is incident; in the other, both the surface of ingress and that of egress are represented as influencing the path of the ray. The diagrams and illustrations are numerous and well executed. There are three coloured plates taken from Liebreich's "Atlas of Ophthalmology," in the spelling of which on the plates the first "h" is everywhere omitted.

The subject of strabismus is intelligibly treated, though we are somewhat surprised to find that the author is still an advocate for the existence of "Amblyopia ex Anopsia"—a condition whose existence he assumes without attempting to prove.

We do not think his method of testing the mobility of the pupil

(page 7) at all a satisfactory one, though we doubt not that in skilled hands any method, however clumsy, can be made effective. On the whole, though there is nothing very remarkable about the work, it will be found an excellent guide and book of reference for both students and general practitioners, though for the ophthalmic specialist it contains nothing of particular interest or importance.

A Manual of Urine Testing. Compiled for the Use of Matrons, Nurses, and Probationers. By K. M. Heanley. London: H. K. Lewis. 1886.

Nowadays a higher standard of culture is expected from nurses than formerly, and by so much, let us hope, has their usefulness been increased. A trained nurse, armed with an elementary knowledge of urinary chemistry, will be enabled to take a more intelligent view of the cases under her charge, and will be in a better position to call the attention of the physician to any morbid change in the urine of the patient.

Miss Heanley's unpretending little volume is based upon lectures given to nurses by Dr. Carter, of Liverpool, and conveys in simple language such information as would enable any person of ordinary intelligence to understand the fundamental points relating to the clinical testing of urine.

Dr. Oliver's test-papers are recommended; but no mention is made of the fact that oil of turpentine is an efficient and convenient substitute for ozonic ether in the guaiacum test for blood.

Dermatitis Venenata: an Account of the Action of External Irritants upon the Skin. By J. C. White, M.D., Professor of Dermatology, Harvard University. Boston. 1887. Pp. 216.

In this work, Dr. White has been at the pains to collect a considerable amount of information concerning all kinds of irritants of the skin, which has not been hitherto readily accessible.

It is pointed out that the number of plants liable to produce irritation of the skin is much larger than would be supposed at first sight. For example, the number of native plants, or those introduced into the United States, which are capable in some degree of injuring the skin, may be set down as sixty, and their effects vary from the mildest degree of transient erythema to the severest grade of inflammation.

The plants referred to are distributed under forty-four Natural Orders. Many of them require only a passing notice, while others are more fully discussed, and no less than forty pages are devoted to the consideration of the irritant effects ascribed to the genus, Rhus. The acute eczematous eruption that not infrequently follows the local use of arnica is carefully described, and it is probable that many unrecognised cases of this eruption occur from the reckless application of "one of the most popular and useless domestic external remedies." Similar ill effects may follow from the application of liniments prepared from the buds of *Populus candicans*, the Balm of Gilead tree—long a favourite for domestic medication in some of the States.

Naturally the greater part of the book is occupied with the description of the vegetable irritants, yet the author does not overlook the effects of other irritants, organic and inorganic, as well as animal; and many practitioners, we are sure, will be glad to possess for reference Dr. White's interesting volume.

The Commonwealth: a Series of Essays on Health and Felicity for Every-day Readers. By BENJAMIN WARD RICHARDSON, M.D., F.R.S.; Fellow of the Royal College of Physicians, and Honorary Physician to the Royal Literary Fund. London: Longmans, Green & Co. 1887. Pp. 336.

WE are glad to see these twelve essays and addresses in collected and permanent form. Most of them we have already heard or read with such interest and pleasure as anything coming from Dr. Richardson cannot fail to bring. We can readily pardon the occasional soft thread of grandmotherliness which streaks the tissue of his teaching, and the slight roughnesses caused by the rare obtrusion of his total abstinence and vegetarian crotchets. The papers dealing with Education are specially valuable, and that on "Diseases Incident to Public Life" contains warnings worthy of heed by active politicians. We must, however, protest against the assumption which seems to underlie these warnings. Length of days is not the *summum bonum*. "It is better to wear out than to rust out." It is better to work our hardest and fiercest for the good of our kind, and to die fighting, years before "our time," than to linger on through a century of tranquil ease. The lecture on "Dress in Relation to Health" is full of wise advice, which will have as much effect upon the distorted sex as good advice on

the subject of dress has ever had. Every woman knows more about "dress in relation to health"—as she does about the management of her first baby—than all our faculty combined. On this subject Dr. Richardson, like humbler men, preaches in vain. Cyclists will read with pleasure the concluding paper—an enthusiastic advocacy of their craft.

SOME PERIODICALS.

1. *The Australasian Medical Gazette.* Edited by the Hon. JOHN MILDRED CREED, M.L.C., L.R.C.P., M.R.C.S.E., &c. Nos. 59–71. Sydney. 1886–87.
2. *Transactions of the South Indian Branch of the British Medical Association.* Vol. II. No. 2. Madras. 1887.
3. *The China Medical Missionary Journal.* Vol. I. No. 1. Shanghai. 1887.
4. *Revue Internationale de l'Enseignement publiée par la Société de l'Enseignement supérieur.* Paris. 1887.
5. *Spitalul, Revista Medicala.* Bucuresci. 1886.
6. *The Polyclinic.* Vol. V. Nos. 2, 3. Philadelphia. 1887.
7. *Transactions of the Pathological Society of Philadelphia.* Vol. XII. Containing the Report of the Proceedings from September, 1883, to July, 1885. Edited by W. E. HUGHES, M.D. Philadelphia. 1886. Pp. 285.
8. *Revista Pharmaceutica do Instituto Pharmaceutico do Rio de Janeiro.* Nos. 7-9. Rio de Janeiro. 1887.
9. *Boletim Geral de Medicina e Cirurgia.* Nos. 1, 2. Bahia. 1887.

1. *The Australasian Medical Gazette*, a monthly periodical, published in Sydney, is in its sixth year of healthy life. It is "the accredited organ of all the principal medical societies in Australia and New Zealand." We looked through the numbers on our table, chiefly for information on the subject of phthisis as it presents itself to our Australasian brethren. We find an elaborate paper by Mr. F. W. Elsner, an alumnus of our Dublin School, "On Tubercle Contagion and Heredity." He concludes that pulmonary phthisis is one of the "most dangerous, contagious, and infectious of all diseases," the greatest danger lying in the sputum,

"which retains its virulence for a long time;" and "the milk of tuberculosed cows is another source of danger, which is lost sight of altogether in the scare about cows' milk impregnated with the seeds of typhoid." The old belief in the comparative immunity of Australia is well-nigh exploded, but phthisical patients are still sent thither from Europe in appreciable numbers. The Registrar-General of South Australia has recently been investigating the effect of immigration into that colony upon the phthisical death-rate, and concludes that "at present the immigration of phthisical patients is not shown to largely influence the number of deaths from" phthisis. In other words, South Australia has abundant phthisis of native growth. In ten months—or nine, it is not clear which—171 persons died of phthisis, of whom 69 were born in the colony; 2 had been resident 1 year; 6, 2 years; 4, 3 years; 2, 4 years; 4, 5 years; 13, 5 to 10 years; 8, 10 to 20 years; 10, 20 to 30 years; 24, 30 to 40 years; 1, 48 years. The proposal, now warmly advocated, to erect a special Hospital for Consumption and Diseases of the Chest in Melbourne, tells a similar tale of Victoria, where, we are told, the number of phthisical cases increases every year.

We may notice, as interesting to our medical jurists, a case of poisoning by "rather more than half an ordinary-sized nutmeg" scraped into a glass of hot ale (Vol. VI., p. 274); and we shall conclude our notice of our contemporary's file with the result of a "new departure" in editing a professional journal—namely, the admission of professional contributions from "irregular" practitioners. "Prof. Samuel Fischer" writes as follows from Sandhurst, Victoria:—

"DERMOLOGIE.

"All healing proceses consist, according to the unvariable law of nature, of import and export (assimulation and excrecion); this every man should learn, that it means the knolledge of the skin and the woonderful working of the nerves. $\frac{5}{8}$ths of all excreed will pass by a healthy man trorought the skin. No art, no science, can upset the law of nature. Science and art becomes an art and science! when it is basett on practical facts. But when science will presume a doctrinary suficiance and an Autocratical power! than no man of common reason has a chance to proclaim the truths and benefits which will benefit mankind who took the trouble in serching the law of nature be gided by the same, and knows to follow the same. And that is the very reason I can say I can cure! and have done so with the best resould. Hydropathie use the skin brush, when before the skin is softened by water and the porse cleansed of their fatty and bony matter: which is called by

Germans Mauser Stoff. But as water is not efective enough by sewere and chronic cases, to bring the cells into activity; an other and stronger proces is used by the Biometer, which is painless and under my hands allwis succesful. Not alone it opens the pores! also it provokes the nerves, and brings them into activity. The nerves contain all material life-power (with the Saule we have nothing to do, we leave that to the parson, he may for all I care cure the soule without the body), so it is but reasonable for any phisician to try and bring the nerves into activity. Would it not therefore be a work of love to humanity to give my healing method more predominance? Homœopathy act some time on a similar princip, but their proces is of a differend kind and not so effective and not so sure! According to my observation I have found that if a man is skin-sore (to gall by lying) he is to be cured, if medical man act not against the princip of the Dermologie. I had a case of that sort given up for death by Surgeon ——, were I did bring this man to life again, and he gained under my treatment in 3 months 50 lbs. of flesh, although the man was consumptive and had tubercules in the lungs. The mother of all sicknesses is the rheumatic, and this most easely cured. A greatt knollege is to be gained by studien that greatt work of that renown Gentleman Dr. Virchows cellular pathologie: I have made a study of it, and put into practice facts which cannot be set up. As I have given prouve in the case of Lupus, were Dr. —— did see the wooman, and told her, that she never will be any more pregnant. But I can asure you this Lady was delieverd of a healthy boy on the 19 of November 1885 and both Mother and child doing well up to the time I write thus. I conclude by wishing that an impartial inquiry is made in all cases I will specify."

2. The South Indian Branch of the British Medical Association is doing good work in Madras. The second number of the second volume of its Transactions is before us. It contains seventeen communications, the proceedings of three monthly meetings. Dr. Browne describes the removal of an enormous elephantoid scrotum; such a tumour as our western lands are never privileged to see. It measured 6 feet 10 inches in vertical circumference, 6 feet $6\frac{1}{2}$ horizontally, the patient being erect. When he sat, it flattened out, and resembled "a large pancake, 7 inches in thickness," 2 feet 10 inches from side to side, and 2 feet $5\frac{1}{2}$ inches antero-posteriorly. After removal and drainage it weighed $124\frac{3}{4}$ lbs. The operation was, as is usual in these cases, successful. Dr. Porter's note on *Anchylostoma duodenale* (should it not be "*Ankylostoma duodenale?*") is interesting. The parasite is rare in India, where other entozoa abound. In 1,000 carefully-made autopsies, the

author had not seen it, while the *Ascaris lumbricoides* was present in half the cases. Mr. Drake-Brockman, the Ophthalmic Surgeon, read an elaborate and most valuable paper on *Hyper-tension of the Eye-ball induced by Atropine Instillation*, which we commend to the notice of our ophthalmological brethren.

3. We have received the first number of the *China Medical Missionary Journal*, which it is proposed to issue quarterly at Shanghai. It is intended to be the organ of the Medical Missionary Association of China, which is to hold its meetings simultaneously with the General Missionary Conference. Some of our readers will be surprised to learn that there are 79 medical missionaries in China, Corea, and Siam, maintained by twenty different Missionary Societies. Forty-six of these are Americans, and 12 of the 46 are ladies. Only two medical ladies are employed by the British Missions. The number concludes with a paper in *Chinese.*

4. The number of the *Revue Internationale de l'Enseignement* which has reached us contains nothing relating specially to our profession, except a paper by Dr. Lortet, Dean of the Faculty of Medicine of Lyon, urging the abolition of the rule which requires an imperfect degree, or diploma, in science, as a qualification for commencing the study of medicine. He asserts that the "semi-bacheliers," generally speaking, know nothing of such natural sciences as might be useful in their medical course; and he attributes the slow progress of the Lyon Medical School, in comparison with other provincial schools, to the difficulty of overpassing the preliminary barrier, while the effort necessary for the attempt is wasted strength.

5. We know so little, though we hear so much, of the Balkan principalities, that it comes upon us with agreeable surprise to find a well-equipped medical periodical flourishing in Roumania. *Spitalul*, a monthly in its sixth year, is published at Bucharest. There is nothing of special interest in the number before us; but the contents are varied, and the contributors are obviously fully awake to all that is going on in the medical world, European and American. This acquaintance with foreign medical literature is specially noticeable in the opening article, on Suggestive Therapeutics, in which the writer shows complete knowledge of the recent researches and controversies on the subject of hypnotic

suggestion. Medicine, surgery, obstetrics, and psychology, are all represented in this number.

6. We are glad to see that the *Polyclinic*, a monthly journal published in Philadelphia, is in its fifth volume, doubled in size, and not increased in price. Among the interesting contents of the August number will be found Proceedings of the American Otological and Ophthalmological Societies. In the latter, Dr. Knapp, of New York, reports a series of 1,000 cases of extraction of cataract with iridectomy. His results are summed up as 85·2 per cent., *good;* 9·0, *moderate;* 5·93, unsuccessful—3·8 per cent. of the failures being due to suppuration. From another paper we learn that blindness is increasing in the United States. Between 1870 and 1880, while the population grew 30 per cent., blindness increased 140 per cent. It "increased in an almost constant ratio from north to south," and decreased similarly from east to west. Contagion appears to be the most important factor in the increase, and immigration is said to introduce a large amount of contagious eye-disease.

7. The Pathological Society of Philadelphia has been in existence since 1857. Its twelfth volume of Transactions contains a report of its proceedings, from September, 1883, to July, 1885. Pathologists will find the volume, with its 120 communications, a great store-house of facts relating to their branch of medical science. In addition to ordinary cases and exhibits, there are four systematic papers—on Hepatic Disease, by Dr. J. H. Musser; on the Pathology of Phthisis Pulmonalis and its Laryngeal Complications, by Dr. Carl Seiler; on the Pathology of Broncho-pneumonia, by Dr. F. Delafield; and on the Pneumonia-coccus of Friedländer, by Dr. G. M. Sternberg.

8. The *Revista Pharmaceutica* is a monthly journal, started in August of last year, and devoted to Pharmaceutics, and Botany and Chemistry in connection therewith. It is published at Rio de Janeiro, and written, of course, in Portuguese. The numbers before us do not contain anything likely to interest our readers

9. The *Boletim Geral de Medicina e Cirurgia* is another Portuguese journal, recently established at Bahia, and intended to be issued fortnightly. Its professed object is "to record the progress of Medicine in Brazil and the adjacent countries;" but in the

two opening numbers, which are before us, with the exception of an elaborate paper on the Therapeutical Use of Iodol, there is scarcely any original matter—the proceedings of European Societies, especially Parisian, occupying a large proportion of their space.

Home Education; or, Irish versus *English Grammar Schools for Irish Boys.* By MAURICE C. HIME, M.A., LL.D., Barrister-at-Law; Head Master of Foyle College, Londonderry; Author of "Morality," &c., &c. London: Simpkin, Marshall & Co. 1887. Pp. 330.

THIS work, from the versatile pen of the many-sided Head Master of Foyle College, adds one more to the long list of useful and instructive volumes which Dr. Maurice Hime has published on Education and School-Boy Life. As usual, he handles his subject with vigour, and it goes without saying that he has produced a readable book. Let us hope that it will be as widely read as it deserves to be.

The dedication is characteristic of the author: "To all Middle-class Parents and Guardians in Ireland, no matter to what religious sect or political party belonging, this Essay, written solely for their Edification, I beg, with the greatest possible respect, to dedicate."

We notice, with regret, that Dr. Hime does not think it necessary to enforce his preaching of the encouragement of home-manufacture by his practice. He points the way, like an excellent finger-post, and does not follow it. This and, presumably, all his books are printed by an Edinburgh firm and published by a London one. Is school-mastering the only Irish craft which Irishmen should patronise? Let us see, however, what Dr. Hime has to say on his side of the cause—"Irish *v.* English Schools"—premising that argument will as hopefully strive to turn the sun from its course, or the modern girl from deforming herself by waist-pinching, as the ordinary Irish gentleman from sending his children to acquire an English accent, and, perhaps, a contempt for the people amongst whom their lives are to be spent, in English schools. The facts which he proceeds to prove are two—that "the vast majority of distinguished living Irishmen were educated, as boys, in Ireland," and that "of the thousands of Irish boys who have been educated during the last half-century at

English schools, exceedingly few have risen out of obscurity." He demonstrates his propositions abundantly; but to what purpose? He sheds his ink in vain. The silly fashion will die out in time, as most silly fashions do. Even sheep will ultimately tire of following a foolish bell-wether into a field of thistles. Meantime, Dr. Hime must console himself with his Johnsonian quotation—"Though we cannot outvote them we will outargue them. They shall not do wrong without its being shown both to themselves and to the world." Of distinguished living Irishmen only 9·6 per cent.—and many of these but partially—were educated at English schools, at which from 1,500 to 1,600 Irish boys are educated, or to which, at any rate, they are sent for education. The result need not surprise any one who will learn from Dr. Hime's little volume what, in too many cases, English "education" means. "The more one looks into the question the more difficult it is to make out what on earth has become of the swarms of Irish boys who have been going for years and years past to England for their education." Of 100 Irishmen who have risen to eminence, 5·2 were educated wholly and 4·4 partly in England. An anecdote throws some light upon the inferiority of English education of Irish boys. A gentleman making himself acquainted with the arrangements of a large English school, in which there were at the time about fifty Irish boys, asked in wondering innocence, "But where is the learning done?" "Well, as to the learning," was the answer, "you see these boys of ours are of well-to-do families, and are not *expected to learn* very much." It is necessarily the "well-to-do" classes of this country who send their sons (and daughters) to English schools, and in these classes, as Mr. Mahaffy long ago pointed out, mental cultivation, and education in its true sense, are considered of but trivial importance in comparison with a veneer of cockney accent and the name of having been at an English school.

We cannot conclude without asking whether the practice against which Dr. Hime's book is directed does not taint also our medical education. Are no students sent abroad to obtain their education, or, taught in Ireland, to take non-Irish qualifications, who would be better taught, or could take not lower qualifications at home? In this matter, we suspect, parents are not so much to blame as the professional teachers who advise them.

PART III.

HALF-YEARLY REPORTS.

REPORT ON SURGERY.

By William Thomson, M.A., F.R.C.S.; Surgeon to the Richmond Hospital, Dublin; General Secretary to the Royal Academy of Medicine in Ireland.

PRELIMINARY TRACHEOTOMY AS AN AID TO CERTAIN OPERATIONS.

Professor Annandale (*Edin. Med. Jour*, March, 1887) adds his testimony to the advantage of preliminary tracheotomy in certain operations involving mouth, throat, or jaws. The advantages recorded are—(1) the prevention of blood passing into and obstructing the air passages; (2) the security of free and proper respiration, together with the safe and convenient administration of an anæsthetic. In addition, it is as well that much blood should not pass into the stomach, as it may cause vomiting, and so interfere with the operation. The best time to perform the operation is immediately before the proceeding which it is desired to aid. The apparatus consists of a vulcanite trachea tube, with a broad ring moving round its neck, and a piece of India-rubber tube about eighteen inches long, and having a diameter of half an inch. One end is passed over ring, and secured to it by a piece of strong silk, the ends of which are left long. The trachea or larynx having been opened, the tracheal tube is introduced as far as its neck, and then each end of the silk is, by means of a needle, brought through the corresponding wound in the skin, and when these are tied together they not only retain the tube in the trachea, but also close the external wound, and prevent blood passing into the trachea in this way. To administer an anæsthetic, the free end of the tubing is introduced into a glass or tumbler, in the bottom of which a little cotton wadding is placed, and upon this cotton wadding chloroform or ether is dropped from time to time, as may be required. The tube and glass are held by an assistant in the position which least inter-

feres with the operator. The throat is thoroughly stuffed by means of a piece of sponge or cotton wadding covered with oil-silk or other thin waterproof material, in order to diminish the chances of blood oozing through the pad. A piece of strong silk is attached for the purpose of withdrawing it more readily. If the bleeding has ceased the tube may be removed after the operation, or in twenty-four hours or more, as circumstances require.

NEW METHOD OF AMPUTATION AT THE ANKLE-JOINT.

Professor A. C. Tauber, St. Petersburg (*Vratch*, Jan. 30, 1886, *Annals of Surgery*, Vol. V., p. 54), describes the following operation :—He begins an incision at the attachment of the tendo-Achillis on the outer side, and carries the knife forward below the malleolus to Chopart's line, then across the dorsum of the foot, and downwards on the inner side. On reaching the middle line on the plantar surface, the knife is carried backwards to the heel and then upwards to the starting point. In this first stage soft parts are divided down to the bones. The ankle-joint is opened in the usual manner—that is, the ligaments are cut in the following order:—Lig. fibulare tali, post; lig. fibulare calcaneum and lig. fibulare tali, ant.; lastly, the deltoid. The third stage consists in dissecting out the astralagus, and cutting off the foot at Chopart's line. While an assistant firmly holds the os calcis by forceps, Tauber cuts off the *external* half of the bone, in the line corresponding to the one first made in the skin. Thus the interior flap of the heel contains a thick, almost square, part of the os calcis, and the posterior tibial artery is not injured. In the fourth stage he saws off the malleoli, ligatures the arteries, severs and adjusts the two surfaces of the bones to each other, which is easily done without any extension of the tendo-Achillis.

THE TREATMENT OF ENLARGED PROSTATE.

Dr. Newman, of New York (*Brit. Med. Journal*, Oct. 1, 1887), writes on the treatment of enlarged prostate by the galvano-cautery sound he has devised, and which, in a case he records, was perfectly successful in removing the obstruction. He says:—

"The *galvano-cautery sound*, as devised by me, was first introduced to the profession at a meeting of the American Medical Association, held in St. Louis, when I had the pleasure to demonstrate its working at the Surgical Section, June 5th, 1886. Since then I have constantly laboured to improve the instrument. For many years I have endeavoured to

apply the galvano-cautery directly to narrow cavities like the deep urethra, bladder, &c., but for want of a suitable instrument was unable. The stumbling-block was that instrument makers would not carry out my plans, declaring them impossible; or when my proposed instrument was nearly completed, the instrument maker improved according to his idea, producing a miscarried monster unrecognisable as my offspring, and better adapted for a dry dock than for my purposes. The desired instrument was a catheter-shaped, smooth-surfaced sound of small size, and so easy of introduction as to glide to the spot to be cauterised. Both poles, thoroughly insulated, running side by side without touching, must be placed within the small tube of this instrument, and the mechanism so arranged that the platinum burner could be heated to the desired degree instantaneously with certainty and beyond possibility of failure. The cautery, its beginning, duration, and ending, as well as the quantity used, must be under the absolute control of the operator. The platinum must not, in its entire length, touch anything; the heat must be concentrated, and not approach the surrounding parts of the instrument; the connections must be perfect and act promptly. The instrument must be light, small, handy, and have the correct curve, and so arranged that the operator can manage the entire procedure without an assistant. The entire mechanism must be placed within the limited space of a No. 18 French scale sized tube. Next we must have a battery so constructed as to give a certain quantity of electricity of a fixed potency, suited to the work to be done and the instrument; too high a potency will melt the platinum wire, or cut the tissues like a razor; on the other hand, too low a potency will fail to heat the wires or not be effective. It is not practicable to measure the heat for galvano-cautery, or say how many degrees we need. Sufficient electricity and no more must be generated to heat the platinum burner to the desired degree. According to the length and size of the burner this heat must be adjusted; a fluid battery changes it almost every instant by polarisation.

"The instrument is catheter-shaped, of smooth, polished metal, with a short curve at one end, where there is a fenestra, in which is placed a platinum wire. A serpentine form is best for this wire; each end is firmly fastened to one of two copper rods inside the tube, and represent respectively the positive and negative poles. The other end of the instrument is straight, and forms the handle, in which commence the above-mentioned copper rods, each of which is fastened to one of the pins or heat-conductors. These two pins are connected to the electric cords by binding screws; the other ends of the two electric cords are fastened respectively to the positive and negative poles of the battery. The current breaker is movable, and when set straight and firmly pressed down on the screw, electricity is evolved, and the burner instantaneously heated. The recent improvements consist in (1) having the handle in a

light, easily managed, convenient piece; (2) having the current breaker under the immediate control of the index-finger; (3) having the fenestra filled up, whereby the instrument is more thoroughly insulated, and less liable to become heated; (4) having the tube filled up, thus preventing it from getting wet, or blocked with *débris* inside. Any good galvano-cautery battery may be used with the instrument, but it is necessary, as before stated, so to regulate the battery that it yields the exact electrical potency to be used for the operation. I use a Dawson battery, which works to my entire satisfaction. The heat must be of a high red colour, just short of white heat, the instant the current breaker is touched; this heat must be kept up while the wire is in contact with the mucous lining. Less electricity is required to heat a free wire in dry air than to heat a wire held against a moist surface. The strength of the fluid is adjusted according to these requirements; the elements are immersed in the fluid to a certain depth, the electrode wires are regulated with regard to their size, length, &c. We can also use the storage battery, consisting of a series of cells, which answers our purpose as well as for electrical illumination. This battery, one adjusted with reference to the quantity needed, works with equal power and steadiness till the stored electricity is exhausted. The last of its electricity has the same effect as the first. This instrument, though portable, is rather heavy. We may use the dynamo machine, which can be operated by hand, foot, hydraulic pressure, or steam, according to construction and desire.

"The foregoing shows a decided progress in prostatotomy, and I believe I am justified in regarding galvano-caustic prostatotomy by the suprapubic method a further advance, for which I propose the following *modus operandi*. The rectum should be prepared and the rubber water-bag introduced, which is dilated with sufficient water to bring the bladder upwards and forwards. The bladder may be injected, but in most cases this will be impossible, as the operation is performed when the urethra is impassable. The opening in the abdomen is made in the usual way, through the linea alba, and avoiding the peritoneum. When the bladder is reached, sutures should be introduced to be used as retractors to avoid infiammation. As the bladder could not have been emptied before, the urine is now drawn off by a trocar and cannula, and then through the cannula the bladder is well washed out and disinfected. Then the bladder is opened, and the prostatotomy performed either by the galvano-cautery sling or burner. Drainage is established, and a tube introduced for after-treatment and washing out of the bladder to combat cystitis. Further details of the operation are omitted, as such can be found in recent articles on the subject of suprapubic cystotomy, &c.

"The advantages of this operation must be considered in two parts: 1st. suprapubic method over perineal section; and secondly, galvano-cautery in preference to the knife or scissors.

"I. The advantages of the suprapubic operation above the perineal section are:—

"1. The ducts and ureters are not wounded.

"2. Perineal fistula is prevented.

"3. The operator sees what he is doing, and does not work in the dark.

"4. The after-treatment is easier, and cystitis can be better combated.

"The former drawbacks in the suprapubic operation are now much reduced, and with care the peritoneum will not be wounded nor infiltration allowed, and antiseptic precautions will prevent sepsis."

Dr. Lange, of New York (*Annals of Surgery*, Vol. V., p. 558), relates a case in which this operation was actually performed satisfactorily:—

"A man, æt. sixty years, had suffered very severely for several years, and cystotomy had been proposed six years previously, but refused. Opening the bladder, two calculi were found lodged in a deep diverticulum on the right side near the entrance of the urethra, one of them long and rounded like one of the irregular processes of a renal calculus which had been exhibited, so that the stone might possibly have descended from the kidney. Observing that the middle lobe of the prostate was considerably enlarged, the operator seized it with a volsella, encircled it with a galvano-caustic snare, and removed it without much difficulty, the hæmorrhage being slight. The wound in the bladder was kept open to allow of effective local treatment, and, in spite of a severe intercurrent bronchitis, it was entirely healed at the end of two months, and the patient had lost the characteristic, anxious, nervous expression so common in those suffering from painful chronic affections of the bladder, and was able to pass a full stream of urine instead of being obliged to use a catheter as he had done for years."

ELECTROLYSIS IN THE TREATMENT OF STRICTURE OF THE URETHRA.

Dr. Newman, of New York, who advocates the advantages of electrolysis in stricture of the urethra, lays down the following rules in a pamphlet which he has published:—

"1. Any good galvanic battery will do which has small elements and is steady; the twenty-cell Drescher battery, carbon and zinc, is an excellent instrument sufficient, particularly, for the beginner. 2. The fluid for the battery ought not to be used too strong. 3. Auxiliary instruments, as galvanometer, etc., are important to the expert, but not necessary for the beginner. 4. For the positive pole, a carbon electrode is used, covered with sponge moistened with hot water, and held firmly

against the patient's hand, thigh or abdomen. 5. For the absorption of the stricture, the *negative* pole must be used. 6. Electrode bougies are firm sounds insulated with a hard-baked mass of rubber; the point is a metal bulb, egg-shaped, which is the acting part in contact with the stricture. 7. The curve of the bougie is short; large curves are mistakes. 8. The plates must be immersed in the fluid before the electrodes are placed on the patient, and raised again after the electrodes have been removed. 9. All operations must begin and end while the battery is at zero, increasing and decreasing the current slowly and gradually by one cell at a time, avoiding any shock to the patient. 10. Before operating, the susceptibility of the patient to the electric current should be ascertained. 11. The problem is to absorb the stricture, not to cauterize, burn, or destroy tissues. 12. *Weak currents at long intervals.* 13. In most cases a current of six cells, or from $2\frac{1}{2}$ to 5 milliampères, will do the work, but it must be regulated according to the work to be done. 14. The séances should be at intervals, not too frequently in succession. 15. The best position for the patient to assume during the operation is that which is most comfortable to himself and the operator. I prefer the erect posture, but the recumbent or others may be used. 16. Anæsthetics I like to avoid; I want the patient conscious so that he can tell how he feels. 17. Force should never be used; the bougie must be guided in the most gentle way; the electricity alone must be allowed to do the work. 18. During one séance, two electrodes in succession should never be used. 19. All strictures are amenable to treatment by the electrolysis. 20. Pain should never be inflicted by the use of electrolysis; therefore it should not be applied when the urethra is in an acute or even subacute inflammatory condition."

A NEW METHOD OF EXPOSING THE KIDNEY.

Professor König (*Centralblatt für Chirurgie*, 1886, No. 35) advises the following operative procedure. The incision is carried at first downward from the last rib to a point a little above the iliac crest and near the outer margin of the erector spinæ. It is then directed upward in a curved manner as far as the outer border of the rectus muscle, about the level of the umbilicus.

The muscles exposed by this double incision—which is increased in extent when necessary—are next divided and the kidney exposed behind the peritoneum, which is stripped from it. If it be desirable for any reason to approach the kidney from the abdominal cavity, the peritoneum is divided along the course of the oblique anterior incision. If the kidney so exposed contain pus, it is advised that the wound in the peritoneum should be closed when the organ has been freed and before it is cut into.

The author gives two examples of this latter procedure, both of which were successful. One concerned a case of renal calculus, the other a suppurative pyelonephritis. After the kidney has been dealt with, various layers of divided muscle must be united by sutures in their proper order. In order to facilitate this step, Professor König advises that a suture be passed through each divided muscle as it is incised. The sutures are retained for three weeks and the patient kept in bed for at least four weeks after the operation.—(*Annals of Surgery*).

CONGENITAL ABSENCE OF OSTIUM VAGINÆ—ACCOUCHEMENT BY THE ANUS.

Dr. Payne, in the *Archives de Tocologie*, gives the history of a remarkable case, from which we condense as follows:—The woman, aged thirty-five, was apparently perfectly developed, physically. She had been in labour for thirty-six hours, and when seen was completely prostrated from the effort at expulsion of the fœtus. On examination the doctor found complete absence of the vaginal orifice, the finger gliding along the perinæum, slipped into a distended anus, where the fœtal head was found. The skin was moist, the pulse feeble and rapid, and the uterus in a state of inertia. The anus, while very much dilated—being about three and a half inches in diameter—was too small to permit of the passage of the fœtal head. An anæsthetic was administered, the forceps applied, and the fœtus was removed without much difficulty. There was no rupture of the perinæum, and after the tonic contraction of the uterus had taken place, the anus resumed its normal dimensions. Five months afterwards Dr. Payne examined the patient anew, and found complete absence of the ostium vaginæ. The vulva presented all the characteristics of virginity; the clitoris was normal, the vestibule and posterior commissure showed no signs of the stretching to which they had been submitted, and the labia were symmetrical. Rectal examination with the finger disclosed the fact that at about two inches back from the vent, the anterior parietes commenced to slope upwards and forwards, and merged into the anterior parietes of the vagina. About an inch below the neck of the uterus there could be felt the free border of a membranous septum, which represented the upper third of the recto-vaginal septum. The uterus was normal in every respect. This woman had given birth to three children at term, but in each case the fœtus was still-born. The cause of death seemed to be due to the premature rupture of the amniotic sac and prolonged labour. Menstruation had always been regular and painless. Coition had been practised regularly, and the woman never suspected that she was differently constructed from others until the examination of Dr. Payne disclosed the fact.—*St. Louis Med. and Surg. Jour.*, Jan., 1887.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Robert M'Donnell, M.D., F.R.S.
General Secretary—W. Thomson, M.D.

SURGICAL SECTION.

President—Sir Wm. Stokes, M.D., President of the Royal College of Surgeons, Ireland.

Sectional Secretary—Mr. W. Thornley Stoker.

Friday, May 20th, 1887.

Mr. Colles in the Chair.

(1) *Two Cases of Lumbar Colotomy, in which there were abnormal conditions;*
(2) *A Contrast between Laparo- and Lumbar-Colotomy.*

Mr. Thomson read a record of two cases of colotomy. In the first, which the patient survived twenty-one months, a tube about the size of small intestine was found in the position of the colon, and between that viscus and the kidney. He was assisted by the late Professor M'Dowel and Professor Thornley Stoker, neither of whom could recognise it. The latter thought it might be an enlarged ureter, but on puncturing it with an angular needle two or three times nothing escaped. The tube was left *in situ* and the colon was opened. The patient made a good recovery. In a drawing of a frozen transverse section he showed how, if the colon had a long mesentery and was distended by flatus, it could extend forwards past the jejunum, lying on its outer side, and, overlapping that portion of the intestine, appear second in order from the quadratus lumborum and not first. In the second case, fæces did not appear for seventeen days. The patient was aged seventy-one, and although the wound was entirely healed, he died on the 23rd day after operation. Both operations were done for cancer of the rectum.

Dr. Ball read a paper on colotomy, illustrated by five cases, in three of which the lumbar operation was selected, while in two laparo-colotomy was performed. He advocated the adoption of the latter operation, in the adult as well as the child, for the following reasons:—1. It permits a thorough exploration of the abdominal cavity, which may enable the surgeon in some instances to perform a more radical operation for the complete removal of the disease, and if removal is impracticable, it ensures that the opening is made above the seat of obstruction, instead of below, as has happened with the lumbar operation. 2. The large intestine is found with ease and certainty. 3. A complete operation for closure of the lower lumen, when considered necessary, can be much more readily and completely carried out, thus making the artificial anus a terminus and not a lateral outlet to the intestine. 4. A shorter distance of intestine intervenes between the opening and seat of disease. 5. The abdominal wall being thinner in front, the extent of wound surface is less, and the fine skin of the front abdominal wall permits a much more accurate coaptation of skin to mucous membrane. 6. The position of the wound is more convenient for the patient. The sole advantage of the lumbar operation in ordinary cases is the fact that the peritoneum is not injured; this, Dr. Ball thinks, is not an important matter. As, with attention to operative detail, extravasation of fæces into the peritoneal cavity can absolutely be avoided, for this purpose he has devised a clamp which allows the intestine to be opened and carefully sutured to the skin, and the lower orifice can, at the same time, be closed absolutely without the escape of any fæces into the peritoneal cavity; this he considers a great improvement upon the operation performed in two stages, as recommended by Mr. Davies Colley. The incision recommended by Dr. Ball is in the left linea semilunaris, taking care not to go below a line joining the umbilicus and middle of Poupart's ligament; by this means the deep epigastric artery will be in no danger of being divided. The sole contra-indication to the performance of laparo-colotomy he considers to be the presence of extensive meteorism, which, under all circumstances, is a very grave complication of colotomy, but which interferes so much with the performance of the intra-peritoneal operation that he adopts lumbar colotomy when the distension is at all extensive.

Mr. Thornley Stoker, having seen the two cases which Mr. Thomson had recorded, bore out his statement as to the difficulty of identifying the colon—a difficulty which had occurred both in his own practice and in that of other surgeons. The identification of the colon was by no means so simple as writers suggested. He believed the tube which Mr. Thomson indicated in one case was not the small intestine, and was inclined to think that it was a very dilated ureter. The case proved one of the most satisfactory which he had seen, as the lady

recovered health, and led a life free from pain for nearly two years, though at the time of the operation she was in the last stage of exhaustion, and would have died in a week or ten days but for the operative procedure. Indeed, the case corroborated Mr. Ball's observation that an atrophic condition of disease, as well as of the bowel itself, took place after the operation. With regard to the second case which Mr. Thomson had detailed, the length of time from the operation till the discharge took place from the bowels—namely, seventeen days—was a point of great interest, as having in the meantime caused intense anxiety lest the true portion of bowel had not been opened. The delay was, doubtless, due to the atonic state of the bowel in an old, withered subject, with a flabby and attenuated intestine. Mr. Ball's paper raised points of great importance. He had himself pursued Mr. Ball's method in the case of a man, aged fifty-five, the subject of cancer of the rectum, who consented to the operation, unfortunately rather too late, yet still at a time when meteorism did not exist. He planned his incision by drawing a line from the umbilicus to the anterior superior spinous process of the ileum, dividing it into three parts, and taking as the centre of the incision the junction of the outer and middle third, the incision being parallel to the semilunar line, its length depending on the thickness of the abdominal wall. There was no difficulty in finding the sigmoid flexure of the colon, which jumped into the wound. He used two Ricords' forceps covered with India-rubber tubes as clamps to keep the bowel free from fæces, and there was no difficulty in doing so, nor did any trace of fæcal matter escape until the operation had been carried out so far as to permit of the removal of the forceps. Mr. Ball's instrument was an improvement on Ricords' forceps, as having a greater parallelism of blades, but he suggested that it should be of lighter make. Mr. Ball had laid stress on passing the central suture behind the bowel, but that, in his opinion, was unnecessary. When the stitches were tightened the posterior portion projected forward. The chief point in Mr. Ball's paper was, however, the distinction which he drew in indicating the cases in which the laparo-colotomy should be performed instead of the lumbar operation. He agreed that the operation of laparo-colotomy admitted of proper exploration being made, and with due precautions was as safe as the other, and more certain. If excessive meteorism existed he would not perform laparo-colotomy, but where the bowel was tolerably free from gas, and no great distension existed, he would undertake it.

Mr. Franks thought too much had been said in favour of laparo-colotomy and too little in favour of the lumbar operation. He would not delay operation until the patient lapsed into the condition of a "too-late case." Bryant had laid down the rule that as soon as obstruction to the bowel was declared the operation should be performed, and

he adopted that rule. As an illustration, he had had lately in hospital a woman with persistent diarrhœa, watery and profuse. On examination the tumour was found to be situated three or four inches up the lower border attached to the uterus, and the opening would not admit more than the tip of his finger. The woman being anxious for relief, he determined to operate, and on examining the lower portion of the gut afterwards, it was found packed from the wound down to the tumour with large masses of fæces, so that the diarrhœa was that of obstruction. Hence, if the surgeon imagined that because of the diarrhœa there was not sufficient obstruction he would wait till too late. In choosing between the two operations in question, he believed in lumbar colotomy. The statistics Mr. Ball had cited were against his own contention, as showing increased risk on opening the peritoneum. One of the questions raised was as to the difficulty of finding the colon; but in three cases which he had operated on he had no such difficulty. As regards the meso-colon, the question of its occurrence in 15 per cent. of cases did not signify much. Mr. Ball had thrown cold water on the *deux temps* operation—*i.e.*, divided into two stages. The last of the kind in his experience had, however, a most satisfactory result. He passed the sutures through the skin and through the fibres of the muscular coat of the intestine and not through the mucous membrane, and the wound was so seated that extravasation was impossible. Several advantages arose from that mode of operation. The peritoneum not being wounded, peritonitis was avoided. There was no danger of aseptic peritonitis, provided the operation was done antiseptically, the wound being healed before any extravasation occurred. Union should be with as little cicatricial tissue as possible, and that would be had by doing the operation in two steps to procure healing by first intention. His opinion was that by operating sufficiently early, and taking the two stages, lumbar colotomy would give better results than the other method. If one of Bryant's pads was recommended, the groin was an ugly place to have it, and a less objectionable position would be behind the hip.

Mr. Tobin, while confident of a consensus of opinion in favour of early operation, was equally sure that the cry could be carried too far, and that there were "too soon" operations as well as "too late." When there was malignant stricture of the rectum, inflammation might be remedied by palliative treatment, and when it subsided the bowel would carry on its work. He had had a case in point—one of stricture of the rectum—that almost occluded the bowels. Having tried palliative treatment and given enemata, he found the bowel could carry on its work fairly well. He taught the patient to use Higginson's syringe. Subsequently the patient was admitted into the Hospital for Incurables, yet in a condition to go to a garden party, when he had the opportunity. Therefore that a surgeon could not operate too early was not to be taken as a rule.

Another point arose on Mr. Ball's paper, in which stress was laid on the careful suturing of the intestine. But operators were so haunted with the idea that an escape of matter into the abdominal cavity might ensue, they were not likely to err on that point, and hence too secure suturing was a mistake. Cases in which he would be inclined to put in one or two additional sutures and tie tightly he had seen turn out well, and the reverse where the suturing was too close and too tight. After the stitching there was a good deal of swelling of the parts closing the wounds, and if made tight gangrene might ensue.

Mr. Chance observed that his colleague Dr. Coppinger, in order to identify the intestine, was in the habit of putting through the stricture a very small catheter, and then passing a stilette through it.

Mr. Thomson replied.—In reference to the suggestion mentioned by Mr. Chance, he found, in the particular case, that it was utterly impossible to pass a catheter or any instrument through the stricture. He had tried it for exploration and to give relief from the intense distension; but he would not pass a catheter and then a stilette into it through a mass of malignant tissue, the state of which he was not clear about. A good deal of damage might be done. On the other hand, by means of a sufficiently large opening in the stricture, the bowel could be inflated with the various apparatus used for the purpose. He agreed that the operation might be undertaken too soon as well as too late. The operation was not done as a curative operation. Whatever might be held as to its effect in producing atrophy of the bowel below the seat of the opening, the majority of cases died within a very short period after the operation, and it was therefore simply a means of temporary relief or palliation. Seeing the definite risk to life whichever operation was adopted, it was desirable to consider whether the patient could not be brought along for a year or two by attention to his condition, as Mr. Tobin had suggested, and then operated upon, thereby adopting the more likely plan of lengthening the patient's life than by operating on the colon the moment disease in the bowel was diagnosticated. With regard to the two methods of operation, he did not venture to determine which was the superior. Dr. Ball's method had a great many advantages over the lumbar operation, because the bowel could be thoroughly explored and cut down upon, while the operator could identify and handle the intestine. But unless there was an intention to remove the lower part of the bowel altogether, he did not see the advantages the operation gave beyond the lumbar except in the line of facility. In laparo-colotomy there were, no doubt, risks in opening the peritoneum; but these risks were much diminished now, and it was perfectly possible to bring the results, so far as mortality was concerned, to the level of those given by lumbar colotomy.

Mr. Ball also replied.—He did not regard the central suture alluded

to by Mr. Stoker as of vital importance, but it was useful in pressing up the peritoneal attachment of the intestine against the front of the abdominal wound and so ensuring a broader and better attachment. He failed to see what advantage Mr. Franks claimed for the lumbar operation beyond what he had himself admitted—namely, that the lumbar operation was supposed not to wound the peritoneum. But as a matter of fact, even in the hands of skilled surgeons, the peritoneum was sometimes necessarily wounded, and therefore he thought it better to make a wound advisedly, with the precautions suggested, by which the escape of fæces into the peritoneum could be absolutely prevented. Although Mr. Franks found the colon without difficulty in his three cases, yet there was the positive evidence of skilled surgeons that in other cases it could not be found, and that the duodenum had been opened in mistake instead of it. Had Mr. Franks performed laparo-colotomy in his cases in which there was a large collection of fæces between the wound and the obstruction, there would be no difficulty in evacuating the intestine up to the point at which the operation was performed, whereas in lumbar colotomy evacuation was a matter of considerable difficulty. As to the wound healing by first intention, fæces passing over a wound did not make it septic. With regard to too late cases, in many instances the surgeon was not at fault—as where the patient did not submit to the operation, or where, when first seen, meteorism was extreme. He did not intend that the wound should be too tightly or closely sutured, as incurring the risk of gangrene and sloughing; but at the same time the more distributed the tension the less the pressure.

The Section adjourned to next Session.

OBSTETRICAL SECTION.

President—A. V. Macan, M.B., M.A.O., F.K.Q.C.P
Sectional Secretary—Andrew J. Horne, F.K.Q.C.P.

Friday, June 10, 1887.

The President in the Chair.

Exhibitions.

Dr. Alfred Smith exhibited a fœtus of six months. It was surrounded by membrane and had the placenta attached. The most interesting part of the specimen was its posture, indicating how the child had lain in the uterus. The extremities were folded together, the cord was round the neck, and one foot was almost touching the nose. Meconium was coming away from the anus at the time of birth.

The PRESIDENT exhibited an ovarian tumour which he had removed from a woman, aged forty years, who had had six children and one abortion. Shortly after her last pregnancy she began to feel a pain at the lower part of the abdomen near the labia; and in a year afterwards a swelling had come on. Twelve months ago she came to the Rotunda Hospital and was advised to submit to an operation, but would not do so and left. Recently she came back to the hospital, being swollen to an enormous size and unable to walk. On examination it was obvious that there had been a large effusion into the peritoneum, and the tumour could hardly be made out. He tapped her on the following morning with an aspirating needle, thinking that he would be able to get off the ascitic fluid and make out the tumour, but only a very small quantity of fluid came away, as the needle was stopped by particles of thick, jelly-like matter. Nevertheless, they got a considerable quantity out, but they could not aspirate the tumour. She had no serious symptom except the great distension; and as it was obvious that the cyst opened into the abdominal cavity it was thought better to operate at once. He did so on the previous morning. The abdominal cavity was full of viscid stuff, and it was found that the tumour had burst at one side. He tried to remove it, but the walls were so thin that it broke down. The whole abdomen was filled with the viscid, jelly-like mass. The operation was naturally a long one, and the difficulty of getting the matter out of the abdominal cavity was very great. The cavity was thoroughly washed out with a weak carbolic solution. The distension had been so great that the whole vagina was completely prolapsed, and could not be replaced when she lay in bed. The pedicle was one of the thinnest that he had seen for a long time, not being thicker than his thumb; so that there was no difficulty about it once the tumour was removed. The temperature rose on the evening of the operation to 101°; that morning and also that evening it was 98°, and her pulse 104. Her appearance had improved since she was operated on.

DR. KIDD said he had seen three or four cases in which tumours had burst into the cavity of the peritoneum, and the majority of them did not turn out satisfactorily. The last case of it that he saw he described at a meeting of the old Obstetrical Society. It was complicated with pregnancy, and Sir Spencer Wells was brought over and operated on the lady, but she died on the sixth day. Most of these cases were capable of being diagnosticated beforehand; and the inversion of the vagina in them was very remarkable. In cases of ascites Douglas' space was generally protruded; but he did not think that occurred in cases of ovarian dropsy.

Report of the Rotunda Hospital.

MR. JOHN L. LANE then submitted the Report of the Rotunda Hospital for the three years ending the 3rd November, 1886.

The PRESIDENT said the great question which everyone wanted to have answered was, what number of deaths took place in the hospital in a year. He was very dissatisfied with the mortalities that appeared. Those who remembered former reports of the Rotunda would perceive that the mortality recorded in the present report was twice as great in proportion as it was formerly. There had been in the last period 12 or 14 deaths from all causes, as compared with 6 in the preceding one; and in the preceding period he did not think that any deaths that should fairly be counted were left out. In the last period, with which the Report dealt, every single death was counted that could be traced to the puerperal state or anything connected therewith, extending to so far as 6 or 7 weeks after delivery, and including a case of chronic pyæmia in a woman who left the hospital and came back and died in it. Another source of mortality was the extern department, and the course which had been taken by the Assistant Master and Clinical Clerk, of bringing into the hospital every woman that they thought had a better chance of her life there than at home, and who was willing to come in. He (the President) would be very sorry that anything else was done, for the sake of making the mortality appear smaller. One of those cases brought in by the Clinical Clerk died in 8 hours after admission; and another who was sent by Dr. Neary, of Howth, died in 24 hours after delivery. Where ovariotomy had to be performed, they considered it a great improvement if they saved the patient to the third day. Some one speaking on the subject had said it was an improvement if the death did not happen till the 4th or 5th day. There had been only one acute case of septicæmia in which the patient died within 23 or 24 hours after the attack. A woman who had a very fœtid discharge lay in a bed next to one who had had a face presentation; the latter was attacked by septicæmia; and the gentleman who attended the two cases afterwards recollected that he did not wash his hands after leaving the first and before he went to the second. The fact that the septicæmia had not been so virulent as in former times was favourable; at the same time, they had had 18 deaths from septicæmia; and not only that, but there had been more deaths from it last year than in the year before. He had been unable to make out the cause of this; but Dr. Lane had referred to what was one source of weakness—namely, the napkins. During the first year of their use these were comparatively fresh; but if they were used in septic cases and not afterwards boiled and thoroughly washed, they were a great source of danger. He would be glad if he could see his way to substituting some cheap antiseptic applications to the vulva for the first twenty-four hours, and afterwards he would let the discharge take place into the sheets and have these changed. In private cases sanitary towels could be used, which should be afterwards burned. Notwithstanding that the mortality in the hospital for the three years had been high, they could not look on

the morbidity of the hospital as anything but to be proud of. During the three years under discussion there had been a continuously-increasing number of patients going through perfectly normal convalescence. Last year 86 cases out of 100 went through a perfectly normal convalescence, and without any rise of temperature save what was purely physiological. In older times, on the contrary, it was no uncommon thing to find a woman walking about the hospital with a temperature of 103° or 104°. He had looked at some of the reports of the Continental hospitals. The lowest percentage was in the St. Petersburg Hospital, in which there were 2,854 births, with 72 per cent. of absolutely normal convalescences, the temperature never going above 100·4°, night or morning. The mortality of forceps cases was tolerably light—33 per cent. —and in those cases the forceps had been used only after absolute indications of the necessity for it, such as stoppage of labour, acute pulse, high tempeture, or vomiting. The exact process of the infection that took place in cases of septicæmia and pyæmia was no doubt still an enigma. As for clothes, or the air of the hospital, or anything of that sort giving puerperal fever, he had not the slightest idea that such a thing was possible. Nor did he think that erysipelas or scarlatina produced puerperal fever. Professor Schröder, of Berlin, had shown that erysipelas had nothing to do with puerperal fever. He considered that as long as a single woman died, going through the hospital, from septicæmia that could be avoided, they should spare no efforts to prevent such mortality.

Dr. Kidd said Mr. Lane was to be congratulated on this Report, which was a satisfactory one in every respect. The most important feature in it was the record of patients followed for 5 or 6 weeks after they had left the hospital. It was the fair and right way of estimating the mortality of puerperal conditions. During the first 100 years of the existence of the hospital the mortality, as stated by Johnston and Sinclair, had been 1·21 per cent.; and during that period antiseptic precautions and treatment were not known. Perhaps if the cases had been followed and counted, as had been done, according to the present report, the mortality would have been greater. It was curious that during the mastership of Dr. Collins the mortality in the hospital from all causes was 0·54 per cent., being less than half the mortality recorded in the present report. They might be sure that all the cases that occurred during Dr. Collins's time were fairly cured; but there was no evidence in his book, as far as he remembered, that the cases were followed as they had been during the last three years. During his time 10,785 patients were delivered, and the total mortality was 0·96 per cent.; and during the last four years of his mastership the mortality was 0·54 per cent. His patients were all delivered on straw beds, which were changed once a month; and the sheets were changed or washed after each patient. Dr. Macan had succeeded Dr. Atthill in the mastership. During the last few months

of Dr. Atthill's mastership there was a remarkable outbreak of puerperal fever in the hospital. The history of puerperal fever in the hospital had been always this: First there came an epidemic with a large resulting mortality. After it subsided they had a freedom from puerperal fever and a gradual decrease in the deaths for three or four years. Dr. Macan's first Report did not show a death from puerperal fever. Now they were having an increase in the number of deaths; and he hoped that it would prove the omen of a future corresponding diminution. Dr. Collins entered upon his mastership after an outbreak, and for three years the mortality was low, though considerable. Afterwards, for four years, there was not a case of puerperal fever, and there came the mortality from all causes of 0·54. Dr. Evory Kennedy then entered upon the mastership, and in his first year there was a furious outbreak; with a mortality larger than had ever been known before. He did not think the immunity from the disease at those intervals had been due to any extra precautions, but rather to the natural history of the disease. He did not say a word against antiseptic treatment; on the contrary, he believed in it, recommended it, and followed it as far as his lights enabled him to do. But it was necessary to look facts in the face; and one of these was the natural history of disease. If there had been any advance made in medicine during the last fifty years it had been due to this, that the natural history of disease had been studied and treatment tested and regulated by it. Dr. Collins used to attach great importance to a point spoken of in the report—namely, that the hand should be kept exerting a steady pressure on the fundus during the third stage of labour. He used to say that it was "a duty of paramount importance." But there was a great deal of truth in what Mr. Lane had put forward as to the risk of pressing on the uterus in an improper direction. That was a very important point; but at the same time he (Dr. Kidd) was not prepared to go so far as to give up Dr. Collins' "duty of paramount importance."

Dr. Byrne observed that the report contained no allusion to the mortality of the children during the three years. Many years ago, in Dr. Clarke's time, the condition of the Rotunda Hospital must have been very bad; puerperal tetanus was then quite common in it. Dr. Clarke's attention was directed to the unsatisfactory condition of the place, and he improved it as far as was in his power. Great and remarkable improvements had been made by succeeding masters; but Dr. Macan might be looked on as the pioneer of antiseptic remedies. Yet he appeared to have abandoned them in this report. He appeared to be a good deal in accord with the tendency of the present day, which was to discard all those remedies. During three years of Dr. M'Clintock's mastership—from 1842 to 1845—there were 6,664 deliveries; and during Dr. Shekleton's mastership of 7 years, there were 13,748 deliveries.

That meant that during both of these masterships the wards had been more crowded than they were during Dr. Macan's mastership. The present Master of the hospital had gone on doing the best he could; but there was something more in the facts than could be explained by antiseptic treatment. Antiseptics had been multiplied, yet still puerperal disease remained. Therefore it appeared to him that antiseptic treatment had proved a failure to a considerable extent. Of the number of patients who died, 18 were primiparæ, and 25 were multiparæ of from 2 to 5 and 6 births each. This was a little different from the ordinary reports of maternities, which, as a rule, showed that the mortality was greater in primiparæ. Dr. Johnston, an eminent predecessor of the President's, was of opinion that delay in labour was a chief cause of death, and in order to obviate it he recommended an early application of the forceps. Dr. M'Clintock and Dr. Johnston were also of opinion that the death list was largely increased by the number of primiparæ who had been seduced. The results recorded in the report were interesting as showing that primiparæ were not more liable to puerperal septicæmia or fever than multiparæ. The observations as to the treatment of the placental stage of labour were of the greatest importance. He had no doubt that in many cases the retention of the placenta, from what was called "hour-glass" contraction, was due to the position in which the patient had lain. There might be a change made for the benefit of the patient in that respect; and he was sure it had happened to all of them to find that, no matter what care they took in pressing upon the uterus as the patient lay on the left side, the uterus would become so gorged with blood that it would escape out of their hands and the placenta would fall into the depression. It would be much better to make the patient turn on the back, because in that position the sacrum and the lower lumbar vertebræ gave a certain amount of support to the uterus, and if pressure had to be used, there would be a *point d'appui* for it.

Mr. Horne considered the report a most valuable one. As regarded the question of mortality, the results given in the present report could hardly be compared with those of the early part of the century; for amongst the old rules of the hospital was one that the Master was to "endeavour to keep patients at least five days in hospital after their confinement;" consequently the period of observation was altogether different. The statistics of the present report showed that in 1883 and 1884 there were 176 cases in which the temperature did not exceed 100·4°; that in 1884 and 1885 the number with such temperature decreased to 94; and that in 1885 and 1886 there was a further fall to 93, which circumstance showed that while the mortality had somewhat risen, the general health of the hospital had improved.

Mr. Doyle said he looked on this report as the most reliable one that he had ever heard in connection with the Rotunda Hospital. Hitherto

each writer of a report had gone on a different system of making up his statistics; but until one uniform system should be adopted by all, it would be impossible to make reliable comparisons with respect to the mortalities in the various periods.

The PRESIDENT said he had not looked up former mortalities; but in some former reports he had seen as many deaths recorded in a month as had taken place latterly in the Rotunda Hospital in a year. The epidemic theory might be offered as the explanation of that; but he would express his absolute disbelief in any such thing as an epidemic of puerperal fever. There might be a lot of cases in the hospital at a particular time, because even one case was a source of danger; but he repudiated the idea that there could be anything in the air to cause it, or that anything was to come in the third year because it had not come for two years before. If he had chosen to go on the lines of other reports he could have cut off half the mortality that was recorded in the present report. In past periods whole wardfuls used to run away without the consent of the Master, because their friends thought they were dying; and then if they died they were not counted as midwifery cases. In fact, after the eighth day they were not returned as such. Every person who had a red rash used to be transferred to the fever hospital; and the patients were not afterwards traced nor any mortality given. He had seen cases going out of the Rotunda Hospital *in articulo mortis;* and yet those cases never appeared in the obstetric returns. He repeated that he would always be delighted to see bad cases coming into the hospital if it gave them a chance of life; and he would never keep them out in order to keep the mortality down. He would not attempt to compare present statistics with those of a hundred years ago. They did not call the same thing puerperal fever then that was now known by that name; and it was not now known what former conditions were. Formerly it was a wonder if an ordinary forceps case passed off without any bad symptom; now such a thing was by no means regarded as a wonder. The man who first introduced antiseptics was no doubt a benefactor; but he was equally a benefactor who could dispense with the use of them. The danger with some nurse-tenders was their excessive reliance upon antiseptics. They thought there was a charm in antiseptics; while they might have created a new danger by not having used a nail-brush for eight or ten months. If there was no septic material near the patient it was throwing away good money. Dr. Lawson Tait, who had everything he wanted in his hospital, might occasionally dispense with antiseptics; but in an hospital like theirs, in which there were cases of carcinoma, fœtid discharges, and puerperal women all together, they could not afford to do without them. If hands and instruments were kept clean he would go so far as to say that puerperal mortality would be almost *nil.* What they had to do was to be on their guard with single cases of puerperal

fever; for if there was any want of care in respect of cleanliness of antiseptic precautions, a whole ward might become full of it before they knew where they were. The only difficulty that he felt as regarded his belief in antiseptics was how they got rid of puerperal fever without them in old times. In some cases it was more difficult to apply them than in others; but on the whole he thought that antiseptics were the very centre and essence of midwifery now-a-days.

The Section then adjourned.

SALOL.

Berlin Physiological Society, June 17.—Prof. Du Bois-Reymond, President, in the chair.—Prof. Ewald spoke on the behaviour of salol (salicylate of phenol) in the stomach, a question which he has investigated in order to obtain information as to the movements of the stomach in relation to the time in which the contents of this organ are sent on into the intestine. Prof. Nencki had stated that salol is not acted upon by gastric juice, but is split up into salicylic acid and phenol by the action of pancreatic juice. Prof. Ewald's experiments confirmed the statement that salol undergoes no change in the stomach; thus, after administering salol, this substance could be detected in portions of the contents of the stomach examined at intervals of from one-half to three hours after it had been taken. Pancreatic juice was found to be similarly inert on salol, but on the other hand it was decomposed by most alkaline fluids. When injected into the intestine through a fistula, salol could readily be detected after half an hour, as salicyluric acid, in the urine. Since, therefore, salol undergoes no change in the stomach, but is readily decomposed in the intestine, and appears in half an hour as salicyluric acid in the urine, it was found to be extremely well suited to the purposes of the proposed experiments. When salol is given to healthy men whose gastric apparatus is in a normal condition, whether on an empty stomach, or with food, or at different stages of gastric digestion, salicyluric acid was found in their urine on an average three-quarters of an hour after it had been taken. From the data given above, the salol must have remained one-quarter of an hour in the stomach. In the case of patients suffering from gastric dilatation, the salol remained much longer in the stomach. The time which elapses between the administration of salol and the appearance of salicyluric acid in the urine may hence be used as an important means of diagnosticating cases of slight gastric dilatation. After prolonged electrical stimulation of the abdominal muscles, the passage of salol into the intestine was quickened.—*Nature.*

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, October 8, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Sept. 17.	Sept. 24.	Oct. 1.	Oct. 8.		Sept. 17.	Sept. 24.	Oct. 1.	Oct. 8.
Armagh -	10·3	10·3	31·0	10·3	Limerick -	22·9	27·0	9·4	18·9
Belfast -	22·1	18·4	22·1	17·9	Lisburn -	14·5	19·3	9·7	14·5
Cork -	26·0	24·0	20·8	13·6	Londonderry	17·8	10·7	14·3	16·0
Drogheda	16·9	8·5	16·9	16·9	Lurgan -	35·9	10·3	0·0	30·8
Dublin -	32·8	29·8	30·1	23·5	Newry -	3·5	3·5	24·6	14·0
Dundalk -	13·1	8·7	34·9	17·5	Sligo -	9·6	24·1	43·3	9·6
Galway -	16·8	16·8	10·1	10·1	Waterford -	16·2	13·9	37·0	32·4
Kilkenny	38·1	16·9	21·1	38·1	Wexford -	21·4	8·6	21·4	21·4

In the week ending Saturday, September 17, the mortality in twenty-eight large English towns, including London (in which the rate was 15·7), was equal to an average annual death-rate of 18·0 per 1,000 persons living. In Glasgow the rate was 19·2; and in Edinburgh it was 16·3.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 25·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·4 per 1,000, the rates varying from 0·0 in nine of the districts to 20·5 in Lurgan—the 7 deaths from all causes registered in that district comprising 1 from diphtheria and 3 from diarrhœa. Among the 95 deaths from all causes registered in Belfast are 3 from scarlatina, 7 from whooping-cough, 2 from ill-defined fever, 2 from enteric fever, and 11 from diarrhœa. The 40 deaths in Cork

comprise 2 from enteric fever, and 4 from diarrhœa; and the 5 deaths in Galway comprise 1 from typhus. No deaths from small-pox were registered in Londonderry, No. 2 district, during the week, but the Registrar reports another case of the disease as having occurred on Saturday. It would appear that in addition to the deaths from this cause in that district, noted in the returns from previous week, some have occurred which have not yet been registered. There have also been cases of the disease in other districts in the north of Ireland.

In the Dublin Registration District the births registered during the week amounted to 195—108 boys and 87 girls—and the deaths to 232—130 males and 102 females.

The deaths represent an annual rate of mortality of 34·3 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 32·8 per 1,000.

Sixty-three deaths from zymotic diseases were registered, being 23 over the average for the corresponding week of the last ten years, but 10 under the number for the week ended September 10; they comprise 8 from measles (a decline of 9 as compared with the number for the preceding week), 2 from scarlet fever (scarlatina). 3 from whooping-cough, 2 from diphtheria, 1 from ill-defined fever, 1 from enteric fever, 33 from diarrhœa, 2 from dysentery, &c.

There were but 4 cases of measles admitted to hospital, being 9 under the admissions for the preceding week; 10 measles patients were discharged, 3 died, and 24 remained under treatment on Saturday, being 9 under the number in hospital on Saturday, September 10.

Twenty-one cases of scarlatina were admitted, being 4 over the admissions for the preceding week; 7 patients were discharged, 1 died, and 58 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week.

Two cases of typhus and 10 of enteric fever were admitted; in the preceding week 4 cases of the former and 2 of the latter disease were admitted. Fifteen cases of typhus and 26 of enteric fever remained under treatment in hospital on Saturday.

Twenty-three deaths from diseases of the respiratory system were registered, being 1 over the average for the corresponding week of the last ten years, and 6 over the number for the week ended September 10; they comprise 13 from bronchitis, 3 from pneumonia or inflammation of the lungs, and 4 from croup.

In the week ending Saturday, September 24, the mortality in twenty-eight large English towns, including London (in which the rate was 14·4), was equal to an average annual death-rate of 16·2 per 1,000 persons living. In Glasgow the rate was 17·7; and in Edinburgh it was 17·3.

The average annual death-rate in the sixteen principal town districts of Ireland was 22·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 5·3 per 1,000, the rates varying from 0·0 in seven of the districts to 10·1 in Galway—the 5 deaths from all causes registered in the last-named district include 3 from diarrhœa. Among the 79 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 5 from whooping-cough, 4 from enteric fever, and 9 from diarrhœa. The 37 deaths in Cork include 5 from diarrhœa and 2 from enteric fever. No deaths from small-pox were registered in any of the 16 town districts, but the Registrar of Londonderry, No. 2 district, remarks: "Two fresh cases of small-pox occurred in my district during the week." One death from scarlatina was registered in each of the following districts:—Kilkenny, Drogheda, and Lisburn.

In the Dublin Registration District the births registered during the week amounted to 172—89 boys and 83 girls—and the deaths to 207—88 males and 119 females.

The deaths represent an annual rate of mortality of 30·6 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 29·8 per 1,000.

Sixty-three deaths from zymotic diseases were registered, being equal to the number for the preceding week, but 30 in excess of the average for the 38th week of the last ten years. They comprise 8 from measles, 4 from scarlet fever (scarlatina), 1 from typhus, 1 from whooping-cough, 1 from diphtheria, 32 from diarrhœa, 5 from dysentery, &c.

Twelve cases of scarlatina were admitted to hospital, being 9 under the admissions for the preceding week; 7 scarlatina patients were discharged, 1 died, and 62 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

Two cases of typhus and 12 of enteric fever were admitted; in the preceding week 2 cases of the former and 10 of the latter disease had been admitted. Fifteen cases of typhus and 34 of enteric fever remained under treatment in hospital on Saturday.

Only 3 cases of measles were admitted; 12 measles patients were discharged during the week, 1 died, and 14 remained under treatment on Saturday, being 10 under the number in hospital on Saturday, September 17.

Twenty-two deaths from diseases of the respiratory system were registered, being 2 below the average for the corresponding week of the last ten years, and 1 under the number for the week ended Saturday, September 17; they comprise 10 from bronchitis, 5 from pneumonia or inflammation of the lungs, and 4 from croup.

In the week ending Saturday, October 1, the mortality in twenty-eight large English towns, including London (in which the rate was 15·4), was equal to an average annual death-rate of 17·5 per 1,000 persons living. In Glasgow the rate was 17·1; and in Edinburgh it was 16·7.

The annual average death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 24·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·4 per 1,000, the rates varying from 0·0 in Limerick, Galway, Newry, Drogheda, Dundalk, and Lurgan, to 9·3 in Waterford—the 16 deaths from all causes registered in the last-named district comprising 1 from typhus, 2 from whooping-cough, and 1 from enteric fever. Among the 95 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 2 from typhus, 7 from whooping-cough, 4 from enteric fever, and 7 from diarrhœa; and the 8 deaths in Londonderry comprise 1 from small-pox and 2 from diarrhœa. The Registrar of Londonderry, No. 2 District, in which the death from small-pox was registered, remarks: "Two fresh cases of small-pox occurred in my district during the week. All the deaths from small-pox which occurred in the District Lunatic Asylum during the present outbreak were registered this week. Four of these were persons admitted from different parts of the County Derry, one from the city, making in all 5 deaths from small-pox in the asylum." Of the 9 deaths in Sligo, 1 was caused by scarlatina.

In the Dublin Registration District the births registered during the week amounted to 215—131 boys and 84 girls—and the deaths to 209—101 males and 108 females.

The deaths represent an annual rate of mortality of 30·9 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 30·1 per 1·000.

Forty-six deaths from zymotic diseases were registered, being 14 in excess of the average for the corresponding week of the last ten years, but 17 under the number for the week ended September 24; they comprise 13 from measles, 1 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from enteric fever, 18 from diarrhœa, 1 from dysentery, 1 from erysipelas, &c.

Seventeen cases of scarlatina were admitted to hospital during the week, being 5 over the admissions for the preceding week, but 4 under the number for the week ended September 17; 13 scarlatina patients were discharged, and 66 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

Two cases of typhus and 11 of enteric fever were admitted; in the preceding week 2 cases of the former and 12 of the latter were admitted.

Eleven cases of typhus and 40 of enteric fever remained under treatment in hospital on Saturday.

Six cases of measles were admitted, against 3 for the preceding week: 7 patients were discharged, 2 died, and 11 remained under treatment on Saturday, being 3 under the number in hospital on Saturday, Sept. 24.

Twenty-two deaths from diseases of the respiratory system were registered, being equal to the average for the corresponding week of the last ten years, and also equal to the number for the week ended September 24; they comprise 14 from bronchitis and 3 from pneumonia or inflammation of the lungs.

In the week ending Saturday, October 8, the mortality in twenty-eight large English towns, including London (in which the rate was 15·7), was equal to an average annual death-rate of 17·5 per 1,000 persons living. In Glasgow the rate was 18·7; and in Edinburgh it was 18·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 20·2 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·5 per 1,000, the rates varying from 0·0 in Limerick, Galway, Newry, Dundalk, Sligo, Lisburn, and Armagh, to 16·9 in Kilkenny—the 9 deaths from all causes registered in the last-named district comprising 1 from scarlatina, 1 from simple continued fever, and 2 from diarrhœa. Among the 77 deaths from all causes registered in Belfast are 2 from measles, 3 from scarlatina, 1 from typhus, 1 from simple continued fever, 1 from enteric fever, and 6 from diarrhœa. The 21 deaths in Cork comprise 4 from diarrhœa. Among the 14 deaths in Waterford are 1 from enteric fever and 1 from diarrhœa, and the 4 deaths in Drogheda comprise 1 from measles and 1 from scarlatina.

In the Dublin Registration District the births registered during the week amounted to 156—90 boys and 66 girls—and the deaths to 164—78 males and 86 females.

The deaths represent an annual rate of mortality of 24·2 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 23·5 per 1,000.

Thirty-five deaths from zymotic diseases were registered, being 8 over the average for the corresponding week of the last ten years, but 11 under the number for the week ended October 1; they comprise 6 from measles, 3 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from diphtheria, 4 from enteric fever, 12 from diarrhœa, 1 from dysentery, &c.

Eighteen cases of scarlatina were admitted to hospital during the week, being 1 in excess of the admissions for the preceding week; 15

scarlatina patients were discharged, and 69 remained under treatment on Saturday, being 3 over the number in hospital on Saturday, October 1.

Ten cases of enteric fever were admitted, being 1 under the admissions for the preceding week; 9 patients were discharged during the week, 1 died, and 40 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

Three cases of typhus were admitted, against 2 for the preceding week; 7 patients were discharged during the week, and 7 remained under treatment on Saturday, being 4 under the number in hospital on Saturday, October 1.

Twenty deaths from diseases of the respiratory system were registered, being 6 under the average for the corresponding week of the last ten years, and 2 under the number for the week ended October 1; they comprise 10 from bronchitis and 3 from pneumonia or inflammation of the lungs.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of September, 1887.

Mean Height of Barometer,	29·936 inches.
Maximal Height of Barometer (on 19th, at 9 a.m.)	30·604 ,,
Minimal Height of Barometer (on 1st, at 9 p.m.)	29·066 ,,
Mean Dry-bulb Temperature,	53·1°.
Mean Wet-bulb Temperature,	50·8°.
Mean Dew-point Temperature	48·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·343 inch.
Mean Humidity,	84·6 per cent.
Highest Temperature in Shade (on 9th),	67·4°.
Lowest Temperature in Shade (on 29th),	37·9°.
Lowest Temperature on Grass (Radiation) (on 29th),	30·8°.
Mean Amount of Cloud,	51·0 per cent.
Rainfall (on 16 days),	1·513 inches.
Greatest Daily Rainfall (on 1st),	·482 inch.
General Directions of Wind,	N.W., W., N.

Remarks.

Opening with very unsettled, squally and showery weather, September, 1887, nevertheless proved a favourable month. It was no doubt very cool, but from the 11th to the 25th conditions were usually anticyclonic, and the weather was quiet and dry. A remarkable reduction of atmospherical pressure took place over the greater part of Europe on the 25th and 26th, so that the weather again became changeable and showery, with very low temperatures, and some severe thunderstorms. On the

night of Wednesday, the 28th, a thunderstorm of exceptional violence raged along the coast of the Counties of Dublin and Wicklow.

In Dublin the mean temperature (54·0°) was decidedly below the average (56·0°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 53·1°. In the twenty-two years ending with 1886, September was coldest in 1866 and in 1882 (M. T. = 53·0°) and warmest in 1865 (M. T. = 61·4°). In 1880, the M. T. was as high as 58·6°; in the year 1879 (the cold year) it was 54·3°.

The mean height of the barometer was 29·936 inches, or 0·019 inch above the average value for September—namely, 29·917 inches. The mercury marked 30·604 inches at 9 a.m. of the 19th, and fell to 29·066 inches at 9 p.m. of the 1st. The observed range of atmospherical pressure was, therefore, 1·538 inches—that is, a little more than an inch and one-half. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 53·1°, or 6·6° below the value for August, 1887; that calculated by Kaemtz's formula—viz., *min.* + (*max.* — *min.* × ·41) = *Mean Temp.*—from the means of the daily maxima and minima was 53·0°, or 2·1° below the average mean temperature for September, calculated in the same way, in the twenty years, 1865–84, inclusive (55·1°). The arithmetical mean of the maximal and minimal readings was 54·0°, compared with a twenty years' average of 56·0°. On the 9th the thermometer in the screen rose to 67·4°—wind S.W.; on the 29th the temperature fell to 37·9°—wind N.W. The minimum on the grass was 30·8° on the latter date. The rainfall was 1·513 inches, distributed over 16 days; both rainfall and rainy days were nearly identical with the values for the preceding month of August—viz., 1·520 inches on 16 days. The average rainfall for September in the twenty years, 1865–84, inclusive, was 2·289 inches, and the average number of rainy days was 14·5. The rainfall, therefore, was again below the average, whereas the rainy days were perceptibly above it. In 1871 the rainfall in September was very large—4·048 inches on, however, only 13 days. On the other hand, in 1865, only ·056 inch was measured on but 3 days.

Solar halos appeared on the 28th. High winds were noted on as many as 8 days, but attained the force of a gale on only two occasions, the 1st and the 5th. The atmosphere was foggy on the 3rd, 21st, 23rd, and 24th. Thunder was heard and much lightning was seen on the night of the 28th, when a violent storm passed along the east coast over the sea from N.N.E. to S.S.W. Temperature did not reach 70° in the screen on any day, while it fell below 40° on 2 days.

At 8 52 p.m. of Tuesday, the 13th, a brilliant meteor was seen traversing the sky from the vicinity of the Pointers in a direction towards S.S.E. The noise of its explosion was heard 3½ minutes later, so that the meteorite burst into flames as a result of its col-

lision with the earth's atmosphere at a distance of 43·4 miles from the observer.

On the 1st of the month (Thursday) the centre of a very deep atmospherical depression travelled quickly towards E.N.E. across the South of Ireland and the Irish Sea. At 8 a.m. of the 2nd, the centre was near Manchester, where the barometer was below 28·90 inches. Severe gales and heavy rains were reported from nearly all parts of the United Kingdom. During Friday this depression gradually filled up, and finally disappeared off the West Coast of Norway in the course of Saturday, the 3rd.

During the week ending on the 10th, the weather over our Islands and their neighbourhood remained in a very unsettled state, with rain in all districts, and a somewhat low temperature. Conditions were cyclonic, except on Wednesday and Thursday, the 7th and 8th, when an anticyclone was passing quickly eastwards over the southern portion of the United Kingdom. On these days bright pleasant weather was experienced in the east of Ireland and other districts for some hours. This agreeable change was soon followed by a return of squalls and showers, as a new depression passed north-eastwards along the north-west coasts of Ireland and Scotland.

The weather remained unsettled in the period from the 11th to the 17th inclusive, but more particularly so in Great Britain than in Ireland. This was brought about by the anomalous transit across the North Sea of a series of shallow depressions in a westerly direction—that is, from Denmark to the North of England and Scotland. Cold northerly winds and daily falls of rain occurred in Great Britain ; but in Ireland, which was further away from the centres of disturbance, the weather, although dull, was finer. Thus, in Dublin the rainfall of this week was only ·020 inch, whereas at Shields 1·590 inches of rain were measured.

Throughout the week ending on the 24th, the distribution of pressure over the British Islands was anticyclonic, and the type of gradient northerly, so that northerly (N.W. to N.E.) breezes were prevalent—light in force over Scotland and Ireland, moderate to fresh in the S. and E. of England. The weather was generally dry in the United Kingdom, but more or less showery to the eastward of the North Sea. Considerable amounts of cloud and haze were observed inland, while the sky was comparatively clear at the coast stations.

At the beginning of the last week conditions became very unsettled, and so continued to the end of the month. On Sunday, the 25th, the barometer gave way generally and rapidly, and this change went on until Wednesday, the 28th, when a large and irregular depression was found over Scotland, the North of Ireland, and the North and East of England. Temperature now became very low—at 8 a.m. the thermometer stood at 33° at Loughborough. At night a very severe storm

of thunder and lightning passed southwards along the coast of Dublin and Wicklow—the lightning being extremely frequent and vivid, and the thunder alarmingly loud. Some heavy showers of rain and hail fell locally during the storm. With the setting in of a fresh N.E. wind on the 29th, temperature rose—first in the North and afterwards all over the country.

From January 1st up to and including September 30th rain fell in Dublin to the amount of only 10·968 inches on but 112 days—the averages for the nine months based on twenty years' observations being 20·162 inches, and 143·6 rainy days. Thus, the rainfall was equal to only 54·4 per cent. of the average, while the rainy days were equal to 78 per cent. of the average. The total rainfall at Kingstown, Co. Dublin, for the nine months ending September 30th, 1877, is 10·990 inches—the average for these months being about 20·880 inches.

PERISCOPE.

A CONTRIBUTION TO THE PATHOLOGY OF THE CEREBELLUM.

From a careful review of the symptoms presented by four cases of cerebellar tumour, in two of which the condition was rightly diagnosticated, Dr. E. C. Seguin draws the following conclusions:—1. *Lesions of optic nerve*, as choked disc or atrophy, are always present, while in cerebral tumours they are present only in three out of ten cases. 2. *Headache* always present. 3. *Vomiting*, an early symptom in these cases, in one only once noted. 4. *The walk* was always affected. In two cases there was cerebellar titubation; in one staggering, with tendency towards the left; in one diffuse staggering, as in alcoholic intoxication. Only in one case was the titubation typical. This was the only case in which the caudo-ventral parts of the vermis were actually destroyed. This bears out the views of Nothnagel. 5. *Motor eye-symptoms* present in two cases—in one nystagmus, in the other conjugate deviation to side *opposite* to lesion. 6. *Paralysis.* Right-sided paresis (side of lesion), without involvement of face or tongue, in one case; in others very diffuse loss of power. 7. *Ataxia* present in only one case, affecting upper extremity on side of lesion. 8. *Anæsthesia* only in one case, on side of face and fingers on side opposite to lesion. 9. *True vertigo* absent in all cases. 10. *Bulbar symptoms* in one case, shortly before death, due to malnutrition from arteritis obliterans of branches of vertebral and basilar arteries. 11. *Psychic symptoms* absent in all cases. "*Therapeutic conclusions.*—Three of the cases teach us that many of the symptoms of cerebellar tumour may be controlled and the disease retarded materially by the free use of iodide of potassium. The remedy should be given in full doses, irrespective of the patient's age, from 100 to 300 grains a day,

largely diluted. Even the vomiting is sometimes controlled by this." "The prognosis is not necessarily fatal. Case I. died of an entirely different pathological process—viz., general arteritis obliterans and multiple softening of the encephalic mass. Case II. died of tubercular meningitis. In both these cases the growth had been completely checked, and gave rise to few symptoms beyond impairment or loss of vision. Is is, therefore, reasonable to hope, especially in children, for an arrest of the cerebellar disease, with some residues, such as blindness and slight motor disability."—*Journal of Nervous and Mental Disease*, April, 1887.

MENTAL EPILEPSY.

From a study of the mental disturbances occurring in epileptics, Dr. L. W. Baker draws the following conclusions:—"1. That attacks of mental epilepsy may precede, follow, or take the place of severe or slight epileptic seizures. 2. Attacks of epileptic mania are wholly unpremeditated, motiveless, and accompanied by impairment of consciousness and temporary loss of memory. During this period the individual is irresponsible for his actions. 3. It is possible for an epileptic to automatically continue, during an attack, an idea or action begun just before the onset of the paroxysm. 4. It is important to distinguish between attacks of true epileptic mania and exhibitions of irritability and violent temper in an epileptic. Le Grand-du-Saulle further remarks:—'The patient who has clearly committed an attempt when not suffering from an attack is partially responsible, but he has the right, after examination into his mental state, to an extenuation of the penalty, and in some way proportionate to the degree of moral resistance which can be opposed.' 5. The question of responsibility of an epileptic in criminal acts should be decided by a commission of medical experts appointed by the court for this special purpose. This commission should make its examination and report previous to the trial. 6. Various mental disturbances may occur in an epileptic upon the cessation of attacks under treatment. These may have no relation to the drugs administered for the relief of the convulsive tendencies."—*Medico-Legal Journal*, Dec., 1886.

CALENDULA.

The recent paper of Dr. Livezay on the good results obtained in cases of incised wounds by a lotion consisting of one part of calendula to three parts of water has caused more extended trial to be made of the plant. Dr. R. G. Reynolds, of Upper Lake, California, reports three very successful cases treated by this method.—*Medical Standard.* [Ointment prepared by adding calendula flowers to melted lard has long been a favourite remedy for ulcers with country apothecaries.—Ed.]

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

An "Anatomical" Bed Pan.

Mr. Charles F. Forshaw, D.D.S., of Bradford, Yorkshire, has forwarded for our opinion a new and improved bed pan, which he has recently patented. It is constructed on anatomical principles and is of Mintons' ware. We have been favoured by the patentee with a series of illustrations, which will readily enable the reader to understand and appreciate the special features of the "Anatomical Bed Pan." Figure 1 shows the pan from the back and left side with the lid on. Figure 2 represents the front and right side, and also shows the handle. Figure 3 is a drawing of the lid, and Figure 4 represents the pan with the lid off.

Fig. 1.

Fig. 2.

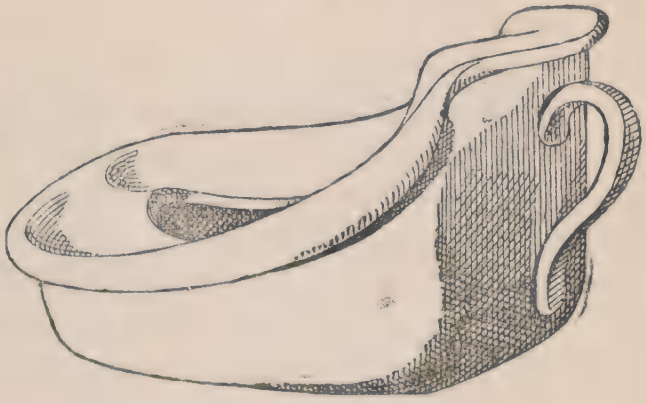


Fig. 3.

Fig. 4.

The Anatomical Bed Pan is likely to supply a want long felt by medical men, nurses, and patients. The bed pans hitherto in use are the old round pan with hollow handle and the slipper, of which there are several varieties. It may be doubted whether the slipper, although newer, has any real advantages over the round shape. Both of these are difficult to clean, and uncomfortable and inconvenient to use, while their

capacity is insufficient. These objections have all been removed by the present invention. Modelled from the human figure, it is perfectly comfortable; the additional height in front, together with the guard on the lid, entirely prevent those accidents which were so frequent in using the old shapes; the lid being movable, the pan can be thoroughly and easily cleaned; while the capacity ($3\frac{1}{2}$ pints) is sufficient for all occasions. The bed pan is suitable for persons of both sexes, and will be found specially valuable by ladies in accouchement.

We would suggest that some means should be devised to more closely approximate the lid and the pan when in use, and simultaneously to lessen the noise which results from the lid slipping on the pan. Possibly the difficulty could be met by adapting an India-rubber collar or pad—a contrivance which, we believe, is technically called a "silencer"—to the edge of the lid. Mr. Alfred B. Pearce, 39 Ludgate-hill, London, E.C., is the agent.

Saccharin Tabloids.

Messrs. Burroughs, Wellcome & Co., of Snow Hill Buildings, London, E.C., have sent us, in a neat little bottle, a specimen of tabloids of saccharin, the recently-discovered sweetening principle derived from coal tar, which is a perfectly harmless substitute for sugars in diabetes and Bright's disease, and possesses 300 times the sweetening power of cane sugar. One or two of these tiny tabloids—each of which contains half a grain—added to a cup of tea, coffee, or cocoa, in lieu of as many lumps of sugar, will impart to it a sweet and delicate flavour and leave a pleasant, although slightly "metallic," remembrance on the palate. This we have demonstrated for ourselves with entire success.

Saccharin is attracting universal attention on the Continent, and the German Government has already adopted it in this form for use in the German Army.

Strophanthus.

It will be of interest to the members of the Medical Profession to learn that the cost of this drug is no longer a hindrance to its employment in cases where it is indicated.

The tincture, which cost at the rate of sixty-four shillings per lb. twelve months ago, is now supplied by the firm of Burroughs, Wellcome & Co., of Snow Hill Buildings, London, E.C., at nine shillings per lb., fifteen shillings per dozen one-ounce bottles, and nine shillings per dozen half-ounce bottles. For convenience of administration and to insure accuracy of dose, the same eminent firm now prepares tabloids, each of which contains two minims of the tincture. These tabloids are dispensed at the ordinary prices of pills or powders, and are supplied to the Profession by Messrs. Burroughs, Wellcome & Co. at one shilling and sixpence per bottle of 100.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

DECEMBER 1, 1887.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVI.—*An Address delivered in the Theatre of the Meath Hospital at the Opening of the Session* 1887–88, *November* 7, 1887. By ARTHUR WYNNE FOOT, M.D., Univ. Dubl.; Senior Physician to the Meath Hospital; Vice-President of the King and Queen's College of Physicians in Ireland; Professor of the Practice of Medicine, Royal College of Surgeons in Ireland; Fellow of the Royal Academy of Medicine in Ireland; Diplomate in State Medicine, Trinity College, Dublin, &c.

GENTLEMEN,—The duty has been entrusted to me by the Medical Board of inaugurating this Session, in the manner sanctioned by long-established practice—by the delivery of an Inaugural Address.

The time-honoured custom of making a special address at this season of the year to students about to commence their medical studies has been abandoned in many places where it was wont to be observed, chiefly, as far as I can gather, because it appeared that the results, either immediate or remote, were not commensurate with the exertion which the preparation and delivery of the address involved. At times, too, the vocabulary of depreciation has been used up in ridicule of these annual ceremonials. They may be heard spoken of as superannuated observances, mediæval anachronisms, vain repetitions of aphorisms grown stale by reiteration. It may have been that a failure to infuse some earnestness and energy into these addresses has made them obnoxious to such charges, and caused them, with some notable exceptions, to be

regarded, even by those for whose edification they were intended, as the capital affliction of human patience, the *summum malum* of their student life, as dreary sermons of unknown duration, which had to be endured, like martyrdom, in a spirit of sad and helpless resignation.

I am not one of those who would decry introductory lectures or abolish the custom of devoting at least one day in the year to the discussion of the personal interests of the students, their aims and objects, the hopes and fears which must agitate those who are about to commit their fortunes to an untried career. Though a comparatively old hand at the task, yet a due sense of the responsibility of the undertaking impresses me. On these occasions the remarks are intended for the guidance and instruction of the pupils about to commence clinical study in this hospital. The address is not introductory in the sense of its being the first of a systematic course; it is to deal with principles of action, rules of conduct, and details of work, and it is introductory, not alone to the hurried business of a nine months' session, or even of a four years' curriculum, but to the whole future life of those who are commencing their attendance here this winter.

It must be simple, yet it must be striking. Simple, because addressed to students, and of these to the very beginners. It would badly serve your interests to deluge you with cataracts of learning which, while they might inundate your minds with admiration, wonder, and perplexity, would leave no good result behind when the flood had subsided. The youngest here can understand the meaning of the words Earnestness, Industry, Perseverance. Take any one of them and make it mentally your watchword, and it will prove an amulet, or talisman, against idleness, waste of time, slothfulness, and all the snares and toils which beset a student, and, perhaps, especially so a student of medicine. The man who begins the study of medicine with a fixed resolve to work earnestly, industriously, and perseveringly, is more sure of ultimate success than if, unsupported by these principles, he were backed by wealth, rank, and influence. These latter auxiliaries can make a man in a sort of a way, but he is not a real man, and is likely to collapse should any of these props be withdrawn. The principles of earnestness, industry, and perseverance make a real man, the best kind of man—a self-made man, a Napoleon among his fellows, one who will be reliable in danger, fertile in resource, cool in difficulty, decisive in action, furnished

at every turn with the precise weapon he needs. I have heard a great deal of advice given to students on occasions like the present. Some of it was good and some, I hesitate not to say it, made no lasting impression on me; but the pith and marrow and summary of all worth recollection which I ever heard was this—that the interests of your whole life depend upon your diligence now, while time and youth and health combine to give you opportunity. I heard that diligence included all the virtues a student could possess. I am convinced that statement is not exaggerated, because I have felt it and have proved it to be true, and I would urge it upon you from no other motive than a sincere wish that you may turn out to be prosperous and honourable members of a profession which, sooner or *later*, confers its supreme rewards on industrious and persevering merit. There are men here present who have made their mark in the Medical Profession, who have plucked "bright honour from the pale-faced moon," and who enjoy such prizes as the State, the Public, and the Profession have it in their power to bestow, and they will tell you that the principles which I recommend you to start with are sound. There are men of business here who know the world, and the ways of the world, and they will tell you that these are the secrets of success in any walk of life; and your own consciences will tell you that they are consistent with your highest duty in the course of life which you are about to enter on.

To-day, then, I suggest to you, as worthy of adoption and incorporation into the essence of your daily life, the principles of earnestness, industry, and perseverance, believing that they are cardinal motives in all useful lives. They are simple fundamental ideas which any beginner can at once take hold of and keep working, like threads of gold, into the web of his life as it issues from the loom of time, until he stands a shining light in a vesture of full professional fitness. They are principles which will hold good in all times and places, which will never have to be unlearned, which will at no time become obsolete or old-fashioned, and which will prove the most reliable basis whereon to build the hopes of success which I am sure fill the hearts of each of you.

Listen to the words of Sir Dominic Corrigan, addressing, some years ago, the students of St. Mary's Medical School:—"Look around you abroad on the men that, in this great city (London), have risen to eminence in our profession, and who have continued to command the confidence of the public, and you will not find

among them one who has not laid the foundation of his success in his own early and continued labour; and this explains what we so often see, that many of the men who have attained the highest positions and greatest wealth are men who had in early life neither connection, nor party, nor sect, nor wealth, nor influence to aid them on their way."

An address of this kind should be striking as well as simple; it ought at least be impressive and stimulating, in order that the peculiar advantages of the occasion may be fully utilised. The audience for whom these remarks are intended is animated with youth, buoyed up with expectation, elastic with strength, eager with curiosity, jubilant with the inspiring influences of happiness, and health, and hope. Enthusiasm should be the order of the day, for it is the frame of mind most propitious for the inception of any great object. Enthusiasm overcomes the initial inertia, it carries with a rush the first obstacles to advance, it conquers the dislike to novel and irksome tasks, and it acts as a motive force before the more lasting sense of duty can come into play. Those who have arrived at a very eminent degree of excellence in the practice of any art or profession, have invariably been actuated by a species of enthusiasm in their pursuit of it. They have kept one object in view amidst all the vicissitudes of time and fortune. Your subsequent progress also very greatly depends on the nature and intensity of the evolutionary impulse communicated to you at the start—that is, to conditions traceable to your first beginnings. This is an occasion, moreover, which occurs but once in your lives. It is one, therefore, on which the counsel offered to you should be dressed and trimmed with the utmost dignity of expression. The purple and fine linen of phraseology should be reserved to lend emphasis to the ceremony of your initiation. In youth all possibilities lie, and nothing is for you as yet irrevocable. You are still masters of the golden sands of your unspent time, and as yet no wailing wind of useless regret vexes your ears, sighing across a barren desert of wasted time. Not yet does the worm of idleness lie coiled up in the heart of your life, fretting its security. What would many of us not give to have what you, perhaps, lightly esteem? to have another chance, a fresh start. What is Past for us is Present for you; but, true as that is, equally true it is that what is Now to you at present will soon be Then. Your Now will soon be gone, and "the tender grace of the years that are dead will never come back again." So quickly

does opportunity flit past that some are hardly aware it has been within their grasp. In Grecian metaphor Opportunity was symbolised by a winged figure, perfectly bald, with the exception of one lock on its forehead, indicating that unless it was seized by that one lock as it sped by, there was no possible means of laying hold on it afterwards. This is the myth which is embodied in the aphorism of Hippocrates—ὁ δὲ καιρὸς ὀξὺς: opportunity is fleeting.

Unavoidable, also, on occasions like the present, is the reflection that the potentialities of youth are incalculable; and the thought of what momentous issues may depend upon the direction or misdirection of your energies adds gravity to the moment. Rich in the opulence of health and good intentions, you are possessed of faculties and powers capable of carrying you further than can be easily imagined. Who can foretell the great eventualities which may be wrapped up in your coming future? The creation of a thousand forests lies in each acorn, and so, shut up in the folded leaves of your unexpanded years, may lie some blossom of rarest beauty—some discovery which will make life happier, pain lighter, or sickness shorter. The bud indications of adult excellence are, it is true, hard to recognise, but it is impossible, at the same time, to say that they are not present. The teacher cannot know at once which pupil will be greater than the master. I can recall to mind the evolution to full professional fitness of more than one from the most unpromising initial conditions—of more than one who, as far as any intrinsic adaptation for the profession showed itself, was at first little more than an indifferent "speck of animated protoplasm," yet when the contagium of enthusiasm had incubated in that structureless mass, and it had begun to assimilate the principles of diligence and perseverance, powers and influences to which it had been a stranger began to assert themselves, which resulted not only in his survival among the fittest, but in his admitted superiority among the best.

The licence of fancy conceded to the speakers on these occasions permits us to indulge in the anticipation that behind your young brows, lighted up with candour and intelligence, are sheltered the future destinies of many who are dear to us; that in your young heads, exempt as yet from any of the insignia of anxiety or care, lie dormant the germs of future enterprise in fields of research at present unsurveyed. These are some of the reasons why I would urge on your attention the paramount claims of "Opportunity."

For now, at once, "in the living present," is *your* opportunity—now, while your attention is sharpened by curiosity, your powers of observation keen, your memories tenacious, your duties novel, and your responsibilities light. Never, again, will such a combination of advantages be at your command. The time, the place, the occasion, conspire to make this a convenient season for pressing home such thoughts — for stirring young, accessible, impulsive hearts; and though I have no eloquence but that of earnestness, it cannot be that all are so insensible to the touch of sympathetic impulses as to forbid the hope that some seeds of high purpose may germinate in the fervent air of emotion. For the most efficacious mode of instilling high principles is, at choice moments, and when all minds are felt to be in a state of gentle excitement, and in a plastic mood, to drop a word or two of practical inference, to enounce some pithy, well-digested sentiments, which, by their natural affinity with the excited feelings, shall combine themselves with the recollected facts.

One of your earliest, if not the very first object to be aimed at in your attendance here will be the cultivation of the faculty of observation. This faculty, as soon as it is available to you, will open an avenue for the acquisition of personal experience. It is quite true that by attention to what falls from your teachers you may at once participate in the experience of others, and in this way much of the knowledge which would otherwise have slowly come into your possession may easily be imparted to you at the very outset and so save you from many mistakes. But the personal exercise and training of the senses in the habit of observation is more particularly insisted upon, because it is a part of education which rests with the individual as to what length he will carry it. The natural power of discrimination of any of the senses is vastly extended by cultivation. The latent capabilities of their sense-organs are incredible to those who have not yet developed them. Eyes—that is, trained eyes—are, with the aid of the lime-light of common sense, often better in the day's work than spectroscopes and microscopes. The habit of discriminating observation can, as it were, remove scales from your eyes, and enable you not only to look *at* patients, but into them and through them, till you constructively comprehend them, and can, as it were, take them asunder and put them together again with your eye. Out of the improvement of the senses, well called the five gateways of knowledge, will grow a better memory for the respective sights

and sounds you meet with, so that the conceptive concrete faculty will be strengthened at the same time. The processes of thought which emanate from a mind informed by highly-trained senses seem to be intuitions from the meteor-like character of their appearance, but the mind does not create what it perceives any more than the eye creates the rose. There is some danger, in this highly instrumental age, of the powers of the trained senses being under-estimated, and of a student, from depending too much on mechanical aids, neglecting the very delicate apparatus he is provided with by nature, and so falling far short of the ability which so largely contributed to the success of the physicians of earlier times, who had to rely on their unassisted senses. It should never be forgotten that the instruments with which nature has provided you have the great advantages of portability, that no emergency is likely to catch you without them, and that in a large proportion of cases nothing else is absolutely required. In the Ayur Veda ("Book of the Art of Life"), the most important Sanscrit work in medicine and surgery which has come down to us, much is spoken of a vast number of operations and instruments, but it says very truly that "of all instruments the hand is the best." Without the cultivation of the senses you may see without perceiving, you may hear and not be capable of understanding, you may touch and yet be unable to feel.

To awaken the interest of beginners in clinical work is a more difficult task than to direct the work of senior students. Those who have adopted this profession from their own choice feel more or less bound to work at it, and the sense of duty is usually sufficient to overcome their initial inertia. The call to adopt this particular line of life is not audible to all in quite the same way. By some it is recognised in the circumstances and what seem the accidents of life; brought up in a medical atmosphere, they may have imbibed an early taste for it. Some hear the call in whispered intimations which tell of personal fitness and aptitude for it. To others the voice comes as a weighty and solemn conviction of the importance of the work itself. But it is likely that many passively adopt it as a means of procuring a livelihood as respectable as any other, perhaps owing to their unfitness for the other learned professions, or attracted towards it by the prosperity of some friend whose career they expect to imitate. If there are any here who are being floated into these studies in a spirit of indifference, and who care not to rise above the level of average mediocrity and

decent dulness, let me remind such that they may find themselves members of a profession which is fast rising to its just place in the estimation of the public, and which may become ere long an influential power in the State. The interests which will be committed to your care transcend all human valuation; to your protection will be entrusted lives incomparably precious; you will have access to the most secret recesses of private life; you will be the depositaries of the most sacred confidences, and know the closely-guarded mysteries of families; you will be made acquainted with those private griefs which are debarred the consolation of public condolence, because they dare not be divulged. The greatest problems of existence—birth and death—seen by comparatively few, will be constantly before your eyes; it will be your privilege to scrutinize minutely Nature's finest masterpiece, unscared by those innate feelings of horror and awe which make others shudder to look upon the body when the soul has left it. You will have to be spectators of the most touching tragedies in the drama of humanity, and may find yourselves in situations which would draw tears down from the iron cheeks of Pluto. The most learned and the most powerful will defer to your opinion, abide by your decision, hang upon your words, implore your assistance; life is dearly loved, and in their extremity men will call upon you, as if you were a god, to save them or theirs—to avert or to delay the critical paroxysm which is about to separate them from this world:—"Skin for skin, yea (though it was Satan said it) all that a man hath will he give for his life."

In training the senses in hospital it is the experience of every teacher that success can be expected only by making their method subservient to that spontaneous unfolding—that natural process of mental evolution, from the simple to the complex, which all minds go through in their progress towards maturity. Hence the necessity for beginning clinical study with simple and elementary forms of disease. Choose for your first patient some one afflicted with a sore leg, a sore head, a sore eye; and if you think there is nothing in such common cases worthy of your attention, it will be the strongest proof that you are still in the outer darkness of gross ignorance. Stare at the sore leg before you, and try to describe it in words, or sit down and try to write out a description of it, and you will soon find out how much easier it is to talk of doing such things than to do them; that the faculty of observation and the faculty of description do not spring ready-made from the brain, but are

the product of frequent and persevering effort. Sir Benjamin Brodie advised one of his pupils about to commence his medical studies in these words:—"Let me beg of you to attend daily at the hospital to look well to the cut fingers and the ulcerated legs; be more anxious to learn the treatment of these every-day cases rather than to spend your time running from place to place to see what are called great operations. It is in the treatment of the cut fingers and the ulcerated legs that the reputation of the young surgeon must be first founded. I wish (he continued) young men would at first be more anxious about these and less curious in running to see the patients with stone and hernia."

In the medical wards the cases which correspond to these cut fingers and ulcerated legs are the coughs and colds, rheumatic pains, and dyspeptic troubles, which, though by no means trivial ailments to the sufferers from them, form the great bulk of purely medical complaints.

After your powers of observation have been trained so as to work faithfully, your reasoning faculty has to be adequately cultivated; for it cannot be too often repeated that physical signs only reveal mechanical conditions, which may proceed from the most different causes, and that the latter are to be determined by a process of reasoning on their connection and succession, on their relation to time, and their association with symptoms. To perceive a thing by means of one of our senses is certainly an essential condition of observation, but sensible perception alone does not constitute correct or useful observation. An observer must be able not only to see a thing simply as a whole, but in its component parts; and to be a good observer he must ascertain and correctly apprehend the connection of the several parts of any phenomena with each other and their mutual relation to the whole.

Painstaking attention to minutiæ, which involves and implies industry and perseverance, has been a characteristic of all who have attained to eminence in medicine. His biographers tell us that the chief traits in Bright's character were a naturally clear judgment and great industry. His power of observation, matured by constant exercise, became so habitual that the most trivial circumstance rarely escaped him. He was in the habit of recording facts and observations in disease or morbid anatomy apparently the most trifling, saying that if he did not at the time perceive their importance, they might be available to himself or others at some future period. The rigid and self-denying honesty of his

investigations has reaped its reward, for there have been few, if any, who have observed and recorded so much, and have reasoned so extensively upon their observations, who have subsequently been required to correct and retract so little.

Of Addison we are told that he never reasoned from a half discovered fact, but would remain at the bedside with a dogged determination to track out the disease to its *very* source for a period which constantly wearied his class and attendant friends. So severely did he tax his mind with the minutest details bearing upon the exact exposition of a case, that he has been known to startle the sister of the ward in the middle of the night by his presence. After going to bed with the case present to his mind, some point of what he considered important detail in reference to it occurred to him, and he could not rest until he had cleared it up.

The illustrious Laënnec, during the first three years of his attendance, as Corvisart's pupil, at the Charité Hospital, drew up a minute history of nearly four hundred cases of disease, and the talent and discrimination of the youthful reporter must appear equally conspicuous when it is known that these very cases furnished the groundwork of all his future researches and discoveries.

There is always an interest attaching to the history of any man who has made a prominent position for himself in whatever career of life. The question "how he did it" excites the interest of the younger members of any profession in which it has been achieved. In the instances of Addison, Bright, Laënnec, who occupy high thrones in the Temple of Fame, the old answer must be given—they "did it" by indomitable PERSEVERANCE in the pursuit of *one* object of study, making it the one day-dream and night-dream of their existence.

The advantage of personally studying cases and of recording your observations on them in writing are numerous. It is by this means you will soonest become self-instructive, and will cease to hang like a marsupial upon what falls from a teacher's lips. Your teachers will have done the very best part of their work when they have taught you to see with your own eyes, to walk with your own feet, to feel with your own hands—when they have trained you to think, and to think for yourselves, with your own minds; and this is not to be effected by any system of spoon-feeding, even though it be with condensed milk, but by your own independent application to the ever-fresh breast of Nature, which has inexhaustible stores of new and rich nourishment for many gene-

rations of students yet to come. From the feeding-bottle you are in danger of imbibing a sour posset of old wives' fables and much crude panada of antiquated notions, which will prove indigestible and sorely trouble you till the unwholesome mass has been rejected. By independent observation you will also diminish the likelihood of selling your minds to the most cunning of all fiends—the demon of theory. Writing out your observations of living cases, making true and faithful symptom-pictures in words, is, till practice makes you expert, both tedious and laborious, but no memory, however retentive, can otherwise retain more than a fractional part of your experience in a condition fit for reference to at any time by yourselves or others, and it also paves the way towards future authorship, which is one of the most useful and honourable means of acquiring professional reputation. Full many a student, while patiently recording his hospital cases in his notebook, has been unconsciously engrossing his own title deeds to fame; and if truth has been holding his pen, these documents will bear the closest scrutiny, and the most searching criticism will only tend to establish their unimpeachable validity. The study of the living model also teaches you to copy nature rather than system, and to avoid the mistake which many, who artificially divide disease into arbitrary stages, commit of sacrificing truth upon the altar of method. Faithful observation and truthful record was the plan adopted by Hippocrates, the Father of Medicine, who used with serious diligence to set down a narrative of the special cases of his patients, and how they were judged of by death or recovery. It is their fidelity to nature which gives the charm to the quaintly drawn disease-pictures of the older authors, and which makes many old books so eloquent with dead men's legacies to the living.

The only requirement to fit you for the adoption of this system—the observance and the record of nature—is interest enough in your own welfare to make you undergo the trouble it involves. Nothing good or great is obtainable without trouble. There is no phrase in the English tongue with more sound, honest ring in it than the phrase "to take pains," and no truth is better worth grappling with and mastering than this—that if you will not take pains at the outset you cannot expect to reach the reward. Without self-sacrifice good is not to be won.

Should any of you be disposed to inquire what may be the ultimate end and reward to be looked forward to as compensation for all your toil, self-sacrifice, and self-denial, I would suggest to

you to keep in mind as your object that of "Excellence in your profession." This will cover and include all you can possibly hope for or expect. The profession is not a mercantile one, and you do not enter it to amass a fortune or procure a title, but to do good according to your ability. Fortune may come, and title too, but to few indeed unless through their efforts after excellence. You may not secure more of this world's goods than will suffice to maintain a comfortable and respectable position in society, but every one of you can obtain rewards, whose value is inestimable by monetary standards, in the satisfaction of doing good. I do not think that any one of you who will ever feel that he has been the means of saving a helpless family from early orphanage would, if he has the spirit of a man, refuse to admit that there is a joy of the heart under such circumstances superior to any that can arise from pecuniary advantage. If you expect to obtain ease and affluence as a reward for your labours, you will probably be so surprised at the apparently capricious way in which reputation and confidence are withheld and bestowed, that you will begin to think that there is some truth in the comparison of the world to an old woman who mistook every gilt farthing for a gold coin, and who, finding herself so often cheated, at last made up her mind to trust nothing but the common copper. It is true that in any calling nothing great will be produced if the first object be what you can make by it; but it is also quite true, that the rewards of a man are in proportion to his merits. The best artist receives the highest pay; the better he works the better his remuneration. The best lawyer, the best doctor, usually commands most practice, and is likely to make the largest fortune. Make yourselves necessary to the world, and mankind will give you bread; and if not great store of it, yet such as shall not deprive you of your property in that which is common to all men—your property in science, in nature, and in hope. No one utterly fails whose attainments give him any right to expect success, or whose conduct is such as to deserve it. It has been well and boldly stated by Dr. Matthews Duncan that it is to the scientific advances of truly great though pecuniarily unsuccessful, and it may be for a time obscure men, that the elevation, the permanent elevation, of the whole profession is due. These are the men who leave behind for our behoof a fund of wealth in moral, social, and general professional position, upon which we should be proud to stand and build, and at least careful not to neglect, far less ignore. The man whose eyes are nailed,

not upon the nature of his art, but upon the wages—whether it be money, or office, or fame—will not accomplish much, because his vision will be narrowed by the limited horizon of profit. The pious and learned Boerhaave, *vir doctus atque prudentissimus*, one of the most celebrated physicians of the eighteenth century, used to say that "the poor were his best patients, because God was their paymaster." His practice was, indeed, for a long time very limited, and entirely disproportionate to his ability, but that he did not always deal only with the poor, is shown by the fact that at his death he left his daughter a fortune of two millions of florins.

But the ripe fruits of matured culture do not grow on youthful shrubs; the crowns of kings will not fit the brows of infant princes. You must be patient if the bread you *now* cast abundantly upon the waters seems as if it would never return to you. The growth of the larch tree and of the oak are very different in rapidity, but the one endures a thousand years after the other has decayed; so all real progress is slow and laborious, all goodness and greatness takes long to ripen, and is slow to be recognised, but its durability is in proportion to its tedious maturity. Since success is so very much a question of survivorship, it is but natural that the fittest should be most eligible for it.

The question cannot be avoided—Why is it that more do not succeed in a visible and substantial way; why is not the harvest richer when it comes to be gathered in? There is so much power; so many seem able to run well, so many give promise of running well; and yet so few reach the goal—so few are chosen. The promising crop of workers is thinned from many inevitable causes; health fails some, either from wilful neglect of that invaluable blessing, or from physical unsuitability for the severe toil which, though not apparent at first, becomes, after some time, too great to admit of over-severe exertion. With others the energy evoked on occasions like the present is but the flare-up of lighted straw, and is cold and dead before it has accomplished anything. Some are led astray from the rough fields of arduous work to flutter over the flower-beds of easier and more congenial pursuits, in a vain search for roses without thorns. Others, disheartened because their merit is not immediately recognised, forgetting that the darkest hour precedes the dawn, give up prematurely. Some lag by the wayside trusting to make up for lost time in a future which never comes; and others fall headlong into the bottomless

pit of habitual idleness. Hence it comes to pass that the running is thinned, and that of all who start some drop out at the first round, others at the second or third, and finally but few, and those the fittest, reach the winning-post. It is no use to chafe against the despotism of fact. Balance, measure, and patience are the conditions—even supposing the happiest temperament to start with—of high success. The suicide of ambition is the refusal to wait. I cannot take you up into a high mountain, and show you a promised land of ease and affluence, a land flowing with milk and honey, as a comfort for the evening of your days. To draw such a picture for you would be to cheat your eyes with a mirage, which, when you would seem to be near its confines, would recede still further from your gaze. When Dupuytren was urged to relax his incessant labours, his answer was, "*le repos, c'est la mort!*" Death is the only rest for many medical men; hence, so many of them die in harness—their harness is their uniform, their decoration, their ornament, and they lay it aside only at the bidding of the great Commander. The memorable reply of Dupuytren was not dictated by any necessity to work from pecuniary reasons, for, although at seventeen he was so poor that he had to mend his own clothes, he was afterwards in a position to offer his sovereign, Charles the Tenth, a loan of a million of francs. The reply was expressive of the impossibility of divesting himself of the habit of work, which had, from use, become second nature.

If it be your fortune to have settled in some large and populous centre, and to have proved yourselves to be possessed of such superior gifts that your ability is in request by all who are, or fancy they are, in need of it, and if you become so much sought after that no person of note can pretend to die decently without your assistance, you may acquire exceptional wealth. But it is more than probable that many of you will take your places among the sturdy, warm-hearted, self-sacrificing band of country practitioners. The same principles will lead you to distinction in this less pretentious wing of the profession. "Under the rough coat and blunt exterior of the country practitioner," as Sir Walter Scott truly says, "you find professional skill, enthusiasm, intelligence, humanity, courage, and science." The country doctor, out at all hours and in all weathers, often when he is much more fit to be in his bed than is he who has sent for him, having the care of the inhabitants of a wild mountainous region on his hands, few knowing and fewer caring to know how much

good he does and for how little he does it—such a man has no assistants but his own self-reliance, presence of mind, sagacity, and readiness of resource on which, from the nature of the case, he must rely unsupported. He cannot be calling in another to consult with him in every anxious case, nor can he indulge himself in the luxury of that safety which has wittily been expounded as attaching more to the multitude of counsellors than to the subject of their counsel. Hard as his life is—the hardest in creation except that of his horse—he has his reward (though missing the applause of men) in the consciousness of a gratuitous, and often a more than gratuitous discharge of duty, and can even at times feel some strength and solace in the sacred search after truth.

Neither worth nor wisdom comes without effort. Before there is wine or there is oil, the grape must be trodden or the olive must be pressed. The birth of effort is always attended with difficulties, its infancy is not free from them, and its adult condition is one of perpetual toil and struggle.

There are numerous spheres of action for a medical life, all of which, whether humble or lofty, are laborious, but all of them duty faithfully done can illuminate with a divine light—the reflection, however dim, of an eternal sun. In many a lonely churchyard in this country the grass grows green over the remains of medical men whose heroic and useful actions were unknown beyond their dispensary districts; for frequently it happens that "the world knows nothing of its greatest men." They lie at rest from their laborious duties, which were more often repaid with prayers and blessings than any form of pecuniary recompense. But the active benevolence of such men's lives speaks in its way as eloquently as do the marble busts of the famous heroes of a more public sphere of duty. The light radiated from the faithful life of any country practitioner contributes its complement to the lustre of the medical firmament, which would be incomplete without such additions to its radiance.

Some students are apt to regard as the end and object of all their work the passing of examinations. No doubt such events may be at times sources of uneasiness, but it is unreasonable for any diligent student to be apprehensive about examinations. If students had as much fear of idleness as they have of examiners, and as much anxiety about waste of time as they have about examinations, these ordeals would be shorn of all their terrors. Students are too much inclined to place the curriculum of this

or that Examining Board before them as the limits of their acquirements, and too prone to look on the gaining of a Diploma as the end of all their exertions. They either do not know or they forget that they will be passing examinations all the days of their lives; but that instead of the considerate gentlemen who question them in the College or University Hall they will be face to face with those imperative and relentless interrogators—Disease and Death—and the questions put by acute disease are invariably short and sharp, and admit of no evasion. The penalty, then, for mistake or ignorance may be, not a reference to further study, but ruined careers for them—broken hearts and desolated homes for those who have trusted to their skill and knowledge, and trusted, alas! in vain.

At the risk of laying myself open to the accusation of being commonplace, I have ventured to offer you these considerations upon the principles which ought to actuate students, because I thought that standing, as you do, upon the threshold of the most important portion of your studies—upon the threshold of clinical work—girt and ready to go and undertake the task of clinical observation—you would not take it amiss to be admonished as to the essential equipment for such a course of study. Whether you will hear, or whether you will forbear, I cannot know. If you prefer to listen to the maxims of a low prudence, you may hear some asking you, with derision: What is the Truth, what is the Science you seek? What is the good of it? It will never make you popular. What will you get by it?—a crust of bread when you have no teeth to chew it. If you lend an ear to such utilitarians, if you listen to the professors of the *quid utile* and *cui bono* schools, and say, I will renounce my early visions, I must eat the good of the land, and let learning and scientific study go until a more convenient season—then dies the man in you, then once more perish the buds of science, discovery, and fame, as they have died already in a thousand thousand men. Such things have been! and there is no funeral so sad to follow as the funeral of our own youth, which we have been pampering on selfish and ignoble aims and all the bright berries which hang in poisonous clusters over the path of life, to the neglect of good and wholesome food.

When, sixteen years ago, I appeared for the first time in the prominent position I occupy to-day, the drift of my remarks was to the same effect as it has been on this the seventh[a] time that I

[a] 1871, 1873, 1874, 1877, 1881, 1885, 1887.

have been called upon to make this annual address. In the intervening period nothing that I have seen or heard or learned has shaken my belief in the correctness of the principles laid down on each occasion, or altered my opinion as to what should be the aim and object of those about to enter the medical profession.

It may be, and I admit it is, difficult to enhance with any new and memorable charm of presentment truisms which are now venerable from their antiquity; but the prizes of life and how we may come at them are questions which knock for answer at the hearts of each successive race of new students. The answer is, that these prizes are to be obtained only by earnestness, industry, and perseverance; each of these active motors being dominated by a worthy aim—Excellence, irrespective of pecuniary reward—duty to be done for duty's sake.

In the dusty struggle, and often tainted atmosphere of daily business, it is well to carry about with us the purifying influence of a high ideal of conduct, fervidly and powerfully expressed, especially in such a profession as that of medicine, in which Honour is so indispensable and so precious that he who wants it or has soiled it has no business therein, and in which it should be your constant endeavour, first, last, midst, and without end, to dignify Truth by use.

ART. XVII.—*Tetanus an Infectious Disease.*[a] By CHARLES B. BALL, M.D., F.R.C.S.I.; Surgeon, Sir P. Dun's Hospital; University Examiner in Surgery; Examiner in Surgery, Royal College of Surgeons; President of the Section.

IT may appear strange how it is that a practical surgeon with no special claim to pathological knowledge comes to fill the important post of President of the Pathological Section of the Royal Academy of Medicine in Ireland, and I am afraid it must be admitted that the explanation is one which we cannot contemplate with satisfaction. It is due to the fact that in this city there are no facilities for pathological research and teaching. The absence of a Pathological Institute is a want deeply to be deplored. My predecessor in this chair last year pointed out to us that the Pathological Society of Dublin, of which this Section of the Royal Academy of Medicine is the direct descendant, was the first society

[a] Being the Presidential Address to the Pathological Section of the Royal Academy of Medicine in Ireland, at the opening of the Session of 1887–88, on Friday, November 4, 1887.

of the kind founded in the United Kingdom, and for many years it continued to do good work; but at the present day the study of scientific pathology has become a vastly more extensive subject, while its methods of investigation require special manipulative skill and education, combined with large opportunity of obtaining material, so that it is not to be wondered at that, with comparatively few but brilliant exceptions, original research in this direction has largely passed out of the hands of practising physicians and surgeons into the hands of those whose whole time is devoted to the subject.

The Governments of the other important European countries fully recognise the national importance of making suitable provision for such institutions, so that the services of the most highly competent pathologists are retained, and the work done by them has abundantly shown that the expenditure has been well employed. Surely public money cannot be put to a more legitimate use than in aiding research into the causes of disease, as the results obtained tend directly to the benefit of the community at large. In the United Kingdom, however, instead of the pathologist receiving that fostering aid which he has a right to expect from the Government, he is thwarted and harassed by sensational and mischievous legislation.

That a Pathological Institute worthy of the Dublin School could be established if the licensing bodies and various hospitals cordially co-operated, I have no doubt. Let us hope that before long we shall see it an accomplished fact.

Practical physicians and surgeons, though possibly unable to do much in the way of original pathological research themselves, cannot afford not to keep pace with the progress of this science. If we compare the surgery of to-day with what it was but a few years ago, how vast is the change. Yet all this is brought about not by any great improvement in the mechanical details, but by more efficient methods of wound-treatment, based upon a more accurate knowledge of the pathology of those former scourges of surgical practice—diffuse inflammation, pyæmia, septicæmia, and phagædena.

Recent investigations would tend to show that that dread disease, traumatic tetanus, is also of zymotic origin, and consequently presumably amenable to efficient prophylaxis. This subject is the more interesting to us at the present time from the fact that this disease has during the present summer existed, with almost epidemic virulence, in this city.

Although the symptomatology of tetanus has been described with great minuteness from a very early period of medical history, its pathology has, until quite recently, remained an enigma. The late Mr. King, of Guy's Hospital, used to remark, whenever there was a *post-mortem* examination of a body dead from tetanus—"Gentlemen, we will now proceed to give you a demonstration of healthy anatomy, for there will be no visible morbid appearance otherwise than congestion of the organs in various degrees, which are owing to accidental circumstances." As far as macroscopic appearances are concerned the same is true of tetanus to-day.

The theory of tetanus being an infectious disease was advanced many years ago, but until quite recently was discarded by writers on this subject. The evidence, however, that it is communicable from man to lower animals, and through a series of animals, is incontestable; and presumably it is communicable from the lower animals to man, and from man to man.

In 1884 Nicolaier[a] pointed out the remarkable fact that he could produce an unvarying succession of symptoms resembling tetanus by inoculating mice and rabbits with small pellets of earth taken from particular situations in which he had previously found a fine bristle-like bacillus. The course of symptoms was in all cases similar. After an incubation stage of $1\frac{1}{2}$–$2\frac{1}{2}$ days for mice, and 4–5 days for rabbits, stiffness of the extremity nearest the inoculation was observed, followed by general spasm and death of the mice within twenty-four hours, and of the rabbits in two days. The same symptoms, only more rapid and energetic, were produced by inoculations with portions of the bodies of animals dead of tetanus, produced by earth inoculation; and a like result was also produced by inoculation with the bacilli after suitable cultivations.

In 1886 Rosenbach[b] took material from a fatal case of tetanus in the human subject, following frost-bite. A piece of skin was taken from the gangrenous foot, just below the line of demarcation, and inserted under the skin of the thigh of a guinea-pig; tetanus developed by the next morning and the animal died during the day. Further inoculation was successful only when the material was taken from the spot directly inoculated. When done in this way it was successful in four guinea-pigs and eleven mice, in succession. The inoculated tetanus was in all respects completely identical with Nicolaier's earth tetanus—after a period of incuba-

[a] Deutsche med. Wochenschrift. Dec. 25, 1884.

[b] Langenbeck's Archiv. für klin. Chirurgie. Bd. XXXIV. Heft 2. P. 306.

tion it commences first in the muscles of the extremity near the inoculation, and gradually spreads to the muscles of the back and other limbs. Rosenbach found a bacillus in all respects resembling that described by Nicolaier, but it co-existed with other forms, from which he was unable to isolate it. He considers it possible that the tetanus bacillus can exist only in the presence of other forms—a fact which is of considerable clinical interest when we remember that traumatic tetanus in the human subject is more likely to follow wounds which are septic and in which putrefactive changes are actively going on.

Reuter[a] tried some culture experiments with material taken from a case of tetanus, which proved fatal, after a complicated fracture of the thumb. The experiments were made with blood from the heart, portions of spleen, and pus taken from the wound, in sterilised blood serum. The specimens of pus succeeded in producing well-marked cultures, but the blood and spleen failed. Microscopic examination showed numbers of chain micrococci and bacteria resembling those of mouse septicæmia, but somewhat larger. Two mice were inoculated with the culture from the pus. In twelve hours they showed signs of approaching tetanus, and were dead in seventeen hours. Repeated experiments with material obtained from mice, or from the cultures in blood serum, produced the typical cultures, and inoculation produced tetanus.

Carle and Rattone[b] have also succeeded in transmitting human tetanus to animals.

At the late meeting of the International Medical Congress, Dr. Shakespeare[c] made a preliminary communication on some experiments that he has instituted on the virus of tetanus. He obtained his material by making emulsions of the medulla and spinal cord of horses and mules dead of tetanus. This he injected under the dura mater of rabbits, invariably producing tetanus, while when injected under the skin it frequently failed. Dr. Shakespeare also tried some experiments of attenuating the virus of tetanus by the method adopted by Pasteur with the virus of rabies—namely, the exposure of the spinal cords for a considerable period to warm air. He draws the following conclusions:—Traumatic tetanus of the horse and mule is at least sometimes, if not always, an infectious disease, transmissible to other animals, and therefore, possibly, also

[a] Centralblatt f. klinische Medicin. July 30th, 1887.
[b] Flügge, Mikroorganismen. 1886. P. 277.
[c] Brit. Med. Jour. Oct. 1st, 1887.

to man, and during the progress of the disease a virus is elaborated and multiplied which is capable of producing the same infectious disease in some other animals when placed beneath the dura mater of the cerebrum. The virus, like that of rabies, is capable of being strengthened in virulence by inoculation from rabbit to rabbit, *sub durâ cerebri*, and, like the hydrophobia virus, it is capable of attenuation by exposure for a sufficient time to the action of dry air at a temperature of summer heat; and, again, like the virus of hydrophobia, it is far more intense when inserted under the dura mater than when injected subcutaneously.

Brieger[a] has gone a step further, and shown that in this, as in other instances, the bacteria owe their toxic activity to the production of chemical substances. He has, by sterilising cultures of tetanus bacilli, produced a ptomaïn, which he calls "tetanin," which, when injected into mice, rapidly produces symptoms of well-marked tetanus. He has also separated two other substances, which he calls tetano-toxin and spasmo-toxin, both of which produce spasms allied to tetanus when injected subcutaneously. The earlier attempts to inoculate tetanus failed—firstly, because dogs were used, and it would appear that these animals are insusceptible of tetanus; and, secondly, because the blood of tetanised animals was used, which is probably inert, the more active culture materials being discharge from the original wound, and, next to that, the central nervous system.

The above-stated facts prove incontestably that the tetanus of man can be communicated to lower animals, and that cultivations of bacteria found in tetanus are capable of producing the disease after several generations.

Let us see now how clinical observation supports the theory of the zymotic origin of this terrible disease. The clinical evidence may be grouped under two heads—first, the records of anything like epidemics of tetanus; and, secondly, any individual observations tending to show the transmissibility of this disease.

Of the epidemics of tetanus the most remarkable have been amongst newborn children. Of the Rotunda Hospital, Dr. Y. Clarke[b] reports that, until the year 1782, 2,944 children amongst 17,650 died of tetanus. This represents the enormous mortality of 1 in every 6. In 1834, at the Stockholm Lying-in Asylum, about 40 fatal cases of tetanus occurred. According to Curling

[a] Deutsche med. Wochenschrift. 1887. No. 15.

[b] Transactions of the Royal Irish Academy. Vol. III.

tetanus neonatorum was endemic at St. Kilda, off the coast of Scotland, and Rose[a] reports that at Berlin, in 1867, 275 persons died of tetanus, 0·04 of the population, but of these 266 were newborn infants.

The evidence of military surgeons tends to show that tetanus has much diminished amongst the wounded since improved methods of wound-treatment and military hygiene have come into operation. G. Blanc saw 30 cases of tetanus occurring amongst 810 wounded, while Lind had 5 fatal cases of tetanus amongst 6 amputations. At the battle of Lyon, in 1834, 12 out of 277 died of this disease. Great wars in recent history do not show anything like such large proportions. In the Franco-German war, with Werder's corps, among 24,262 sick, with 7,182 wounded, there were 45 cases of tetanus.

During the present year tetanus has appeared with considerable frequency in the Dublin hospitals, and I wish to express my indebtedness to the House Surgeons of the various hospitals for the information which I now beg to present—from which it will be seen that there were 4 cases treated in the Dublin hospitals in 1886, and up to October 31st of the present year 16 (Table I., p. 465).

The mortality statistics of the Registrar-General for Ireland, however, do not show, during the past nine years, any marked increase of the number in any one year (Table II., p. 466). Although we may assume that these statistics include most of the cases of so-called idiopathic tetanus and trismus neonatorum, they are open to a grave fallacy in respect to cases of traumatic origin. In the majority of the latter a coroner's inquest has taken place, and the deaths are then registered on the information of the coroner, who usually is satisfied with an inquiry as to how the injury occurred, and not how it proved fatal. For instance, one of my own cases, which died of tetanus, is registered simply as "from an injury received from a tramcar (accidental)," and nothing is stated about the tetanus.

The liability of the operation of ligature of hæmorrhoids to be followed by tetanus has obtained wide currency, but an investigation of the facts discloses very remarkable results. According to Allingham the number of cases operated on by ligature at St. Mark's Hospital, London, up to 1881 was 4,013, and of these but 5 died of tetanus, 4 of which occurred during the months of

[a] Pitha u. Billroth: Handb. der Chirurg. Bd. I. 1 Heft.

March and April, 1858, during which time Curling tells us tetanus was abnormally frequent in other London Hospitals.

When we come to investigate individual cases of supposed direct infection, we meet with some very surprising instances. In a case noted by Ammon,[a] a surgeon, after treating a man with traumatic tetanus, attended a woman with a retained placenta, which he removed. The woman was shortly afterwards seized with a virulent and rapidly fatal attack of tetanus. But it is in the case of lower animals that some of the most remarkable observations have been made. At the meeting of French surgeons,[b] last year, the nature and treatment of tetanus was one of the special subjects for consideration. According to Cérémini, at Noisy-le-Sec tetanus has been endemic for a very long time, and it is computed that $1\frac{1}{4}$ per cent. of the horses there die of this disease. In a village of the Ardennes a veterinarian castrated 13 horses on the same litter, and they all died of tetanus. He subsequently went to a neighbouring village and castrated 10 others, all of which died also. Cases are recorded by Large and Verneuil in which men attending directly to tetanised horses took the disease and died. Verneuil compares tetanus to trichinosis, rabies, anthrax, and glanders, in being communicated to man from the lower animals; and he considers that the horse is the animal from which it most frequently originates. He grounds his opinion on the following facts: — The frequency of tetanus amongst horses; the cases above noted, in which persons directly in attendance on horses ill with tetanus have contracted this disease; and its common occurrence, in his experience, amongst grooms, stablemen, and others, whose wounds have been contaminated with clay soiled with horse dejections. In order, if possible, to obtain any evidence in support of this view, I addressed inquiries concerning the frequency of tetanus in horses and lower animals this year to several of our influential veterinary surgeons in this city. Mr. Lambert, whose experience is so large, replied to me as follows:—"Tetanus has been more prevalent this year (by two to one) than any year since I started practice." Mr. M'Kenny states that "idiopathic" cases were more than usual this year, but that others were about an average. Mr. Ferguson, Mr. Sewell, Mr. Allen, and Mr. Freeman, however, inform me that they have not observed any special frequency this year.

[a] Münchener. Med. Wochenschrift. 1887.

[b] Revue de Chirurgie. November, 1886.

My personal experience of tetanus has, I am glad to say, been small, and until the present summer I have not had a case for nine years. This year, however, I have lost two cases; and the way in which they occurred suggests the possibility of direct infection. The first was that of a boy who was admitted into the children's ward of Sir Patrick Dun's Hospital, July 15, after having sustained a very severe accident from a tramcar—six ribs on the right side were broken; there was a severe lacerated wound of the axilla; the brachial plexus was torn through, and the brachial artery ruptured; gangrene of the arm ensued, and it was amputated through the shoulder-joint, July 19. Tetanus developed on the 22nd, and proved fatal on the 23rd.

The second patient was admitted to the same ward, and placed in the adjoining bed on September 5, for the purpose of having an operation for the radical cure of hernia performed. The operation was done on September 12th; the case ran an aseptic course, so far as suppuration was concerned; the wound was absolutely healed by the 14th day, and all dressings were dispensed with; on the 17th day, however, symptoms of tetanus supervened, and the disease proved fatal five days afterwards. Now, although there was an interval of six weeks between these two cases, it must be remembered that they occupied adjoining beds in the same ward, whereas there had not been a case of tetanus in the hospital for upwards of eight years before. No doubt all surgeons have noticed the strange coincidence by which cures of rare injuries and other surgical affections come under observation at the same time; so that it is only by careful observation, extending over a long series of cases, that sufficient data can be obtained. When it was first suggested that tubercular phthisis could be communicated by direct infection, few medical men believed it; but soon a considerable number of cases were put on record which appeared to support the suggestion; considering the much greater rarity of tetanus, it must be admitted that the number of cases in which apparently the disease was due to direct infection are relatively great.

It may be urged against the infection theory that the disease sometimes is idiopathic—*i.e*, without apparent injury, and that the period of incubation is uncertain. With regard to the first objection, a wound may be so trivial that it escapes observation, or possibly an abrasion of the mucous surface may be the starting point. No one now questions the zymotic origin of erysipelas, yet

many cases of the latter disease arise without recognisable traumatism. The parallel between the two diseases is further exemplified by the fact, that in both, when they are of the so-called idiopathic variety, the course is usually much milder.

The uncertain period of incubation cannot be considered a matter of very great importance. We know that, in rabies for instance, the period of incubation varies within wide limits, and yet its direct contagiousness cannot be questioned.

Table I.—*Tetanus Returns, Dublin Hospitals.*

—	1886		1887—to Oct 31.	
	No.	Fatal.	No.	Fatal.
General Hospitals—				
Richmond	–	–	3	2
Steevens'	–	–	1	1
Mater Misericordiæ	–	–	1	–
St. Vincent's	–	–	–	–
Adelaide	–	–	–	–
Meath	–	–	4	2
Sir P. Dun's	–	–	2	2
City of Dublin	2	2	–	–
Mercer's	1	1	–	–
Jervis-street	1	1	1	–
Maternity Hospitals—				
Rotunda	–	–	3	3
Coombe	–	–	–	–
National	–	–	1	1
	4	4	16	11

Mr. Shakespeare's experiments, as far as they go, appear to show that the more attenuated the virus is, the longer the period of incubation, and probably the milder the resulting tetanus

will be. Clinical experience quite bears out these observations. Although we may view with distrust the case recorded by Robison, in which a negro scratched his thumb with broken china, and died of tetanus in a quarter of an hour, still it is incontestable that some cases develop with extreme rapidity. Chalmers lays down the law that cases occurring in 24, 36, or 48 hours after injury rarely survive the third day, but comparatively few are lost when it comes on after the ninth or eleventh. We however sometimes see, even after a long incubation, a fatal issue, as in the case I have noted.

I think it is not too much to hope that, with a more accurate knowledge of this terrible disease, a more efficient prophylactic treatment will be the means of saving many lives.

TABLE II.—*Deaths Registered from Tetanus in Ireland.*

—	AGES.																Total for each year
	1	2	3	4	5	10	15	20	25	35	45	55	65	75	85	95	
1877	1	1	2	–	2	5	2	3	1	3	–	–	2	–	–	–	22
1878	–	–	–	–	3	4	1	1	3	1	2	–	3	–	–	–	18
1879	–	–	–	–	1	2	2	2	3	3	2	2	2	–	–	–	19
1880	2	–	–	–	4	1	5	5	4	7	1	3	1	–	–	–	33
1881	1	–	–	1	8	3	3	2	3	1	2	1	1	–	–	–	26
1882	2	–	–	1	1	3	1	2	2	3	6	3	–	–	–	–	24
1883	–	–	–	–	7	1	–	1	2	7	1	4	1	–	–	–	24
1884	–	1	–	1	1	–	3	4	3	3	–	1	2	–	–	–	19
1885	–	–	–	1	9	5	4	1	1	1	3	1	1	–	–	–	27
Total at each age	6	2	2	4	36	24	21	21	22	29	17	15	13	–	Total		212

Art. XVIII.—*Trephining in Mastoid and Tympanic Disease.*[a]

By J. Dallas Pratt, F.R.C.S., M.A., M.D., B.Ch. of the Univ. of Dubl.; late Resident Surgeon, City of Dublin Hospital; Member of Court of Examiners, Royal College of Surgeons; late Civil Surgeon, Station Hospital, Beggarsbush; Fellow of the Royal Academy of Medicine in Ireland.

The case which I venture to bring under the notice of the Profession is, I think, one of considerable interest. Not only on account of its comparative rarity, and the success of the operation, but also because of certain points which arose in connection with it which have not been present in similar cases.

The disease for which the operation is done is not uncommon, but the operation which I performed is not frequently resorted to. For these reasons, therefore, I bring under your notice the notes of the case:—

Private H. Burbeck, 1st Batt., 71st H.L.I., was admitted to the Station Hospital, Beggarsbush, on March 30th, 1885. He was a strong-looking man, aged nineteen, and had 1½ years' service. About ten years previously he had suffered from scarlatina, and had then a discharge from his ear, which had continued ever since. Some six or seven weeks before his admission he had got pain in the ear, and pain and considerable tenderness over the mastoid process. The immediate cause of his going sick was the increased difficulty in hearing, as on the night previous to his coming to hospital he had been three times challenged by the sentry, and became aware of it only when he saw the lamp over the barrack-gate shine on the bayonet as it was brought to the charge.

Having tried various injections, all of which failed to be of the least use, and having ascertained by the use of a speculum that there was a perforated condition of the membrana tympani, I resolved to trephine the mastoid region to allow the discharge free vent. Accordingly, on the 18th of April I had the patient put under the influence of ether by my friend, Mr. Middleton—Mr. Wheeler, Surgeon-General J. I. Thompson, Principal Medical Officer, Dublin District, Dr. Harley, and Dr. Haddon, also being present. A crucial incision having been made behind the left ear, with the centre opposite the external auditory meatus, the periosteum was divided and reflected, the crown of a small trephine was placed on the bone in such a position that the whole of the trephine was anterior to a vertical bisecting the mastoid process, and the lower border on a level with the external auditory meatus. The bone was then cautiously

[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland on Friday, November 11, 1887.

cut through down to the dura mater, and the piece removed by means of an elevator. When the trephine had penetrated to about half the thickness of the skull there was some hæmorrhage, which was arrested by pressing a bit of lint into the wound for a moment or two. On removing the piece of bone the dura mater was plainly visible, and the wound was then plugged with dry lint, the skin wound being left open and a hot fomentation applied over it; the patient was then removed to bed. The portion of bone removed had a softened inner surface.

The patient had an evening temperature of 99° F.; pulse, 80. He was put on two pints of beef-tea, and four pints of milk. On the next morning (April 19) his temperature was 100° F.; pulse, 80. He had slept for four hours. There was no pain or headache, only the soreness of the external wound giving him any trouble. The plugs were changed, and pus flowed from the wound. Evening temperature, 98·8°; pulse, 76. He had some sleep during the day.

20th.—Morning temperature, 98 4°; pulse, 76. No pain, but did not sleep. Evening temperature, 98·4°; pulse, 80.

21st.—Morning temperature, 98·4°; pulse, 76. On this day I handed over the case to Surgeon-Major Charlton, who took over charge of the Hospital, and to him I am indebted for the notes of the case from that date. I, of course, saw the man with him frequently.

25th.—Slept fairly last night after taking a draught containing chloral hyd., 15 gr.; liq. opii sed., 20 ♏; potass. brom., 15 gr. Case doing well; wound healthy. Hot fomentation.

27th.—Progressing satisfactorily; stupes continued; ordered 10 grs. pulv. ipecac. co.

May 3.—Wound filling up; no pain; continued stupes; ordered chop.

May 15.—Some pus coming from the external auditory meatus, which was found to proceed from an abscess in the pinna, opening close to the external meatus. This was incised, and the matter evacuated; some threads of silk put through to act as a drainage tube.

May 24th.—Some discharge going on from the external abscess; stupes discontinued.

June 2nd.—The abscess having re-filled, was opened more freely, and fomentations again put on.

June 8th.—Case has progressed most satisfactorily; no discharge from ear for some time; trephine wound closing rapidly.

23rd.—Slight discharge from track of abscess; syringed with sol. chlor. zinc, and blew iodoform in.

29th.—No discharge; hearing greatly improved.

I saw the patient a few days before he went on sick furlough, when all discharge had ceased, and the hearing was almost as good as in the sound ear. Some months after this he was examined at Belfast by the medical officer in charge, and also by the principal medical officer of the

district, for a draught going to the other battalion in India, and he was passed by them as fit for service in that country.

That some operative measure should be adopted in cases of protracted discharge from the ear, which is not amenable to milder treatments, and which is accompanied by perforation of the membrana tympani, with, or even without, pain and tenderness over the mastoid region, is, I think, certain; and this idea was impressed on my mind very forcibly by the fact that I saw two of these cases not operated on die with symptoms of compression, and that, too, quite suddenly, only a very few hours having elapsed between the first symptoms of pressing and the fatal termination. I have endeavoured to collect as many of these cases as possible, with the various operations that have been done on them, with a view of determining which of these operations is the most satisfactory. We may divide the operations into three classes for convenience of comparison:—First, the operation which was done in this case on the lines set forth by Mr. Wheeler; secondly, the operations of opening the mastoid cells by drill, gouge, chisel or bit; and thirdly, those resorted to by A. E. Barker, and Hulke and Edmunds, and which consist of two distinct operations—gouging the mastoid down to the cells, and afterwards trephining the skull at a point one and a quarter inches behind, and one and a quarter inches above the external auditory meatus, which corresponded to the inferior posterior angle of the parietal bone, close to the squamosal suture (Barker's Case). Trephining 1 cm. above the auditory meatus (Hulke's first case). Gouging the mastoid down to the cells, and then trephining the skull 2 cms. behind and inward of the mastoid process, the crown of the trephine encroaching on the inferior curved line (Hulke's Cases, 2 and 3), and trephining three quarters of an inch behind the meatus, avoiding the mastoid cells (Edmunds's Case).

Of these operations opening the mastoid cells was suggested by Riolan (1649). Valsalva, in 1704, caused fluid to permeate to the middle ear by trephining in a case of otitis, with a sinus behind the auricle. Rolfink, in 1656, pierced the mastoid process for deafness and singing in the ear. Hartmann advised the operation in cases of caries, with accumulation of pus in mastoid cells. In 1724, J. L. Petit performed the operation with a chisel; his case was successful. After this the operation, having become known, was practised in an indiscriminate manner as a general cure for deafness, and was looked on as safe until the death of Dr. von Berger,

of Copenhagen, in whose case it was performed as a cure for deafness with painful singing in the ears, showed the contrary, and the operation fell into disuse—all the specialists and most surgeons (notably Dieffenbach) reprobating it. Forget, 1849, and Follin, 1859, again called the attention of the profession by publishing one or two successful cases; but it was the paper written by von Tröltsch, in 1861, making mention of successful cases by Jasser, Fielitz, Weber, Forget, Follin, and himself, but not mentioning any of the fatal ones, except that of von Berger, that brought the operation into note.

Professor Schwartze, in a paper read at the International Medical Congress, in 1884, at Copenhagen, says that, in spite of von Tröltsch's paper, the operation was confined to individual cases, which were mostly resultless. Looking at more recent statistics, the operation would not seem so favourable as represented by von Tröltsch. Of fifteen cases published by Kilham, Dalby (2), Lippincott, Strawbridge (3), Simon Snell, Meyer (3), Kapp, Pomeroy, Beard, and Henry Morris—4 died, or nearly 27 per cent. Ashhurst mentions, as one of the dangers of making Wilde's incision, the formation of a false aneurysm on the post auric artery if the cut is not made far enough back, and states that this had occurred in his own hands, and also in a case recorded by Kapp.

I next come to examine the operations as described by Mr. Barker and Mr. Hulke. Of the four cases on record, three have terminated fatally, or 75 per cent.—an alarming mortality for any operation, but to be accounted for in part, at any rate, by the fact that, in three of the cases, a double operation was done; first the gouging operation, which, of itself, has a mortality of 27 per cent., and afterwards trephining the skull, with whatever danger attaches to it.

The operation on the lines laid down by Mr. Wheeler—that is, placing the trephine so that the whole of its crown is anterior to a vertical line bisecting the mastoid process, and its lower border, on a level with the external auditory, and perforating the bone down to the dura mater, opening the mastoid cells, the middle ear, and cranial cavity at one operation, and enabling the operator to reach the temporo-sphenoidal lobe by the most easy method, seems to be the most successful. Fifteen cases are on record—seven by Mr. Wheeler, one by Mr. Fitzgibbon, one by a surgeon in Wicklow, two by Langdon, one by Victor Horsley, one by Truckenbrood, and the present case. Of these, Langdon's cases died, the rest

recovered, or thirteen recoveries out of fifteen cases, or only 13·8 per cent. of deaths. On the other hand, all the cases I have seen published, eight in number, in which no operation has been attempted, have terminated fatally. From all these considerations taken together, I have come to the conclusion that the operation with the trephine, in this particular position, is the most favourable, and that it should be resorted to in all cases where caries of the bone is diagnosticated, or where an abscess in the temporo-sphenoidal lobe is suspected, in prolonged and intractable otorrhœa, with perforation of the membrane, or where there are pain and tenderness over the mastoid process. Even should the operator, for any reason, wish only to open the mastoid cells, it would be far better to do so with a trephine, than with gouge, chisel, bit, or gimlet. All the latter instruments are unhandy and dangerous, as it is difficult to tell how far any of them may penetrate through even sound bone, and, of course, still more difficult in the case of carious diplöe. Schwartze, the greatest advocate of this instrument, seems to fear it, as he is careful to warn the operator to place his finger close to the point, to guard it from plunging suddenly into the diseased structure; Ashhurst also notes this danger.

The hammer and chisel are still more unscientific; if the chisel be used the hammer is quite unnecessary. The trephine is manageable, and there is no danger of sudden penetration, as the bone is cut by friction and not by force. With regard to the size of the instrument used, Mr. Wheeler's first case was done with a large trephine about 18 mm. diameter; but his four later ones and my own case were done with a much smaller instrument—about 15 mm.—and this was found to answer the purpose equally well; the peculiar points in connection with my own case being the hæmorrhage from a vein—probably the middle temporal diplöic—when the bone was about half cut through, the abscess forming in the pinna, and the very slight constitutional disturbance following the operation—the temperature only on one occasion going above normal.

ART. XIX.—*Report of the Rotunda Hospital for the Three Years ending 3rd November*, 1886.[a] By JOHN LILLY LANE, B.A. Univ. Dubl.; L.K.Q.C.P. & L.R.C.S.; Ex-Assistant-Physician.

THROUGH the kindness of Dr. Macan, the Master of the Hospital, I have the honour to lay before the Academy the Report of the Rotunda Hospital for the three years ending 3rd November, 1886.

It was after considerable hesitation I accepted his kind offer, feeling keenly how imperfect my efforts to frame a Report worthy of the institution would prove, and how unfavourably my Report would contrast with those brought before you on former occasions by successive Masters of the Hospital.

I have only had the good fortune to hear one of those Reports read—namely, that so ably brought before you by Dr. Macan, the present Master, which I feel certain is still fresh in the memory of many present; and I shall endeavour to inform you of the results since obtained in the hospital by the adoption of the measures and precautions he then advocated.

For the past three years the corrosive sublimate solution for the hands and for intra-uterine injection has been much more freely used, and indeed has almost entirely taken the place of the carbolic acid solution, except in cases of considerable hæmorrhage, suspected renal mischief, or great corpulence, and the reason of the continued use of the carbolic acid solution in these cases is that absorption being so great there is danger of mercurial poisoning manifesting itself by diarrhœa, tenesmus, bloody stools, &c., whereas by using the carbolic acid solution (1 in 80) no bad symptoms have been noticed.

The general use of the evaporation of carbolic acid solution in the wards, mentioned by Dr. Macan in his Report, has been discontinued, although it was had recourse to on one occasion when there were some unsatisfactory cases in the hospital.

Iodoform pessaries have not recently been employed nearly so frequently, and are now used only when the lochial discharge becomes fœtid, and continues so after the first washing out of the uterus.

I may here conveniently allude to the use of the napkins which were introduced by Dr. Macan. At first they did very well, and kept the beds much more cleanly, but after some time the temperature and pulse of some of the patients went up, for which we could not account, unless it were due to the use of the napkins—

[a] Read before the Obstetrical Section of the Royal Academy of Medicine in Ireland, June 10, 1887.

there being always considerable difficulty in getting them properly washed. It was then decided that the first napkin used in each case should be soaked in corrosive sublimate solution, and wrung out before being applied to the vulva—the napkins, after the first in each case, not being put in the solution. This, at first, seemed successful, but at present only one napkin, soaked in solution, is used for each case.

Table A.

—	1883 and 1884	1884 and 1885	1885 and 1886	Total	Average
Forceps	68	65	70	203	1 in 16·75=5·96 per cent.
Version { Internal	8	8	11	27	1 „ 89·5 =1·1 „
Version { External	4	5	2	11	
Perforation	5	4	8	17	
Induced labour	4	4	3	11	
Accidental hæmorrhage	24	37	37	98	1 „ 34·71=2·88 „
Placenta prævia { Partialis	2	3	9	14	1 „ 226·8=0·44 „
Placenta prævia { Centralis	1	0	0	1	
Post partum hæmorrhage	52	43	48	143	1 „ 23·72=4·2 „
Secondary post partum hæmorrhage	3	5	6	14	1 „ 243·0=0·41 „
Transfusion	0	0	3	3	
Adherent placenta	16	13	8	37	1 „ 91·95=1·08 „
Breech presentation	30	30	20	80	1 „ 42·52=2·35 „
Face „	4	3	6	13	1 „ 261·7=0·38 „
Brow „	0	1	0	1	
Transverse „	4	5	6	15	1 „ 226·8=0·44 „
Footling „	3	17	12	32	1 „ 106·3=0·94 „
Prolapse of funis	8	16	8	32	1 „ 106·3=0·94 „
Face to P.	8	14	5	27	
Abortion and premature labour	76	64	63	203	
Threatened abortion	2	6	4	12	
Myxoma of chorion	0	0	4	4	
Twins	18	23	13	54	1 „ 63·0 =1·58 „
Triplets	1	0	1	2	
Umbilical hernia	0	1	0	1	
Convulsions	3	4	6	13	
Mania	5	5	6	16	
Fibroids complicating pregnancy	0	2	2	4	
Ovarian tumour complicating pregnancy	0	1	0	1	
Occlusion of vagina	0	1	0	1	
Abscess in posterior *cul-de-sac* with pregnancy	0	0	1	1	
Hydrocephalus	0	0	1	1	
Prolapse of uterus before delivery	0	1	2	3	
Thrombus of labium after delivery	0	1	0	1	
Erythema	12	3	10	25	
Spina bifida	2	2	1	5	
Anencephalous fœtus	0	3	0	3	
Ophthalmia neonatorum	14	9	11	34	1 „ 100·05=0·99 „

Perchloride of iron injected in 12 cases.

During the three years there were 3,414 patients attended in the hospital, including 12 cases of threatened abortion. The preceding table (A) contains all cases that possessed any unusual interest, and in calculating the percentages I deducted these 12 cases.

There were 43 deaths from various causes, giving a mortality of 1·25 per cent., or 1 patient in 79·39. One of these deaths occurred from supposed acute yellow atrophy of the liver, about a week after the patient left the hospital, which she did contrary to the wishes of the staff; and another from septicæmia, the day after the patient went home, which she also did contrary to the wishes of the staff.

I have not thought proper to include in the list of fatal cases a patient confined in the hospital who had been sent in by Dr. Horne, suffering from a tumour complicating pregnancy. In this case there was at first considerable difficulty in arriving at a diagnosis, but after some time a tumour formed in the posterior *cul-de-sac*, from which, on being opened, a quart of pus escaped. The patient at one time, whilst in hospital, became maniacal, although in this respect she was fairly recovered before she left, which she did at her own and her husband's request. She unfortunately, some time after leaving hospital, got possession of a revolver, and shot herself, with fatal results.

The following is a summary of the fatal cases:—

Case I.—M. C., aged twenty-four, third pregnancy, admitted 29th November, 1883, in a state of partial collapse from accidental hæmorrhage. Stimulants and beef-tea administered, also ergot; hæmorrhage ceased, and patient improved somewhat; uterine contractions also improved; patient delivered herself a few hours later; placenta expelled in twenty minutes, followed by a gush of blood; uterus relaxed; ergot again given and hot douche used—this not checking the hæmorrhage, uterus injected with perchloride of iron, which stopped the hæmorrhage—but, though every means was tried, the woman gradually sank and died. There was no *post mortem*.

Case II.—E. M., aged thirty-three, seventh pregnancy, admitted 27th November, 1883, in a very bad state of health, having been an inmate of Steevens' Hospital a few weeks previously with cough and spitting of blood; delivered herself 27th November, but died fourteen days after of phthisis. Dr. James Little had seen the patient and agreed in the diagnosis.

Case III.—C. C., aged twenty-nine, sixth pregnancy, admitted to hospital 25th January, 1884, but labour not having commenced was

transferred to Auxiliary, as she was suffering from a cough, dyspnœa, dysphagia, and vomiting of ropy mucus and coffee-ground looking stuff; improved somewhat, and was suddenly delivered on night of 30th; the day following there was very little vomiting, but respiration was more difficult, and patient became cyanosed, and died that evening, twenty-four hours after delivery. *Post mortem.*—Acute bronchitis with enlargement of bronchial glands, also an old ulcer of stomach.

Case IV.—K. H., aged twenty-seven, first pregnancy, admitted 28th January, 1884; delivered with forceps on the 29th of an 8 lbs. child. Liquor amnii had been coming away for five days before admission. Died, 6th February, of septicæmia. No *post mortem.*

Case V.—A. G., aged nineteen, first pregnancy, admitted 8th March, 1884; delivered same day of a premature child, dead and macerated. Uterus washed out with antiseptic solution. This woman was quite jaundiced when admitted, and had been for a week previously. Died 11th March. *Post mortem*, by Dr. Duffey, verified the diagnosis formed of acute yellow atrophy of liver.

Case VI.—E. D., aged twenty-five, third pregnancy, sent to Rotunda by Dr. Neary of Howth; when admitted was excited and talkative, speaking about her home and wondering where she was. Delivered 18th April, 1884. Died twenty-four hours after. *Post mortem* by Dr. Duffey.—Tuberculosis of lungs and brain with œdema pulmonum.

Case VII.—C. K., aged twenty-eight, seventh pregnancy, sent to hospital by the clinical clerk, 30th April, 1884, suffering from accidental hæmorrhage, which first came on two days before admission, but ceased till the day she was seen. The membranes were ruptured at 9 a.m., 30th; child born in twenty minutes after; got rigor at 2 p.m.; greenish vomit, and complained of severe abdominal pain. Died, 1st May, of septic peritonitis.

Case VIII.—J. S., aged twenty-three, fifth pregnancy, admitted 17th June, 1884; delivered the 18th, after a rather tedious labour; was transferred to Auxiliary 25th; and died, 2nd July, of pyæmia. *Post mortem* by Dr. Duffey.—Acute ulcerative endocarditis.

Case IX.—M. C., aged twenty-eight, third pregnancy, brought to hospital, night of 8th August, 1884, by the clinical clerk. Patient was very emaciated; had been confined to bed for two and a half months, and dispensary doctor said "both her lungs were gone;" was seven months pregnant. Stimulants administered, and, as she was in labour, membranes were ruptured; delivery effected by natural efforts 9th August, but she died eight hours after of exhaustion from phthisis. No *post mortem.*

Case X.—R. D., aged twenty-nine, sixth pregnancy, brought to hospital, 20th November, 1884, in a state of coma from convulsions. When undressed, child found born as far as umbilicus; no difficulty in delivering arms and head; premature, eight months. Adherent placenta removed. Died, evening of admission, 15 hours after first convulsion. No *post mortem.*

Case XI.—B. C., first pregnancy, admitted 24th November, 1884, and delivered same day by natural efforts; face presentation. This patient was examined by a student who had not washed his hands after having examined a labour case with fœtid discharge (who also died of septicæmia). Died, 1st December, of asthenia and puerperal peritonitis. No *post mortem.*

Case XII.—A. W., aged twenty-four, first pregnancy, admitted 24th November, 1884; delivered with forceps same day. Child dead and œdematous. Placenta adherent removed, when it, together with the discharge, was found to have a very fœtid smell; slight *post-partum* hæmorrhage. Died, 6th December, of septicæmia. We considered that it was from this case the preceding one was poisoned.

Case XIII.—B. T., aged thirty, third pregnancy; admitted from Auxiliary, 11th December, 1884, having been sent up from the country. Delivered 12th December. Died 15th December, of septicæmia. No *post mortem.* This woman's child died quite suddenly 24 hours after its birth.

Case XIV.—W. L., aged twenty, third pregnancy; admitted 4th January, 1885; delivered on 5th of a still-born child, not macerated. Uterus was not washed out. Died 15th January, of asthenia from puerperal peritonitis. No *post mortem.*

Case XV.—E. R., aged twenty-eight, second pregnancy; admitted 15th January, 1885, at 1 a.m.; delivered a few minutes afterwards. Stated that three days previously she had been attacked with shivering and great pain in back (inferior angle of right scapula), also had troublesome cough. In about seven hours after delivery her pulse was 140, and temperature 103° F. Became maniacal a couple of days later, and died rather suddenly 19th January. *Post mortem.*—Congestion of lungs. This woman, it was afterwards ascertained, had been a great drinker.

Case XVI.—H. C., aged nineteen, first pregnancy; admitted 13th January, 1885. Hydrocephalic child, diagnosticated by external palpation. Labour had commenced, and in about 20 hours after admission her pulse was found to be 140, and temperature 102·4° F. Membranes were then ruptured, when a large quantity of liquor amnii escaped. A few hours later, child's head was aspirated, and about 40 oz. of fluid drawn off.

Forceps were then applied, and patient delivered. Child was dead, had a spina bifida, and left arm amputated in utero. Died 21st January, having become rather jaundiced. *Post mortem.*—Pleuro-pneumonia.

Case XVII.—M. A. H., aged thirty-three, fifth pregnancy; admitted 27th January, 1885, suffering from severe accidental hæmorrhage; os rather small; ergot and stimulants given by mouth. The membranes were ruptured, and afterwards version performed. Child extracted, and placenta followed head; slight P. P. H.; iron injected, and, although hæmorrhage ceased, patient gradually sank. No *post mortem.*

Case XVIII.—M. C., aged thirty-four, second pregnancy; sent to hospital, 13th February, 1885, by Doctor Colgan, of Bagnalstown, Co. Carlow, pregnancy being complicated by an ovarian tumour. Labour induced. Child extracted, March 18th, footling with prolapse of non-pulsating funis; head perforated, as there was some difficulty in its extraction. Patient's abdomen afterwards became greatly distended. Ovariotomy performed on seventh day, but she died 36 hours after of peritonitis. No *post mortem.*

Case XIX.—M. M., aged twenty-four, first pregnancy; admitted 1st March, 1885, in a bad state of health. Had been under treatment by Dr. Gibson, of Clontarf, for some time, as also her sister, for heart and lung disease. She was very anæmic, with œdema of legs and feet. Delivered day after admission of a premature child. Died six weeks after of pleuro-pneumonia. No *post mortem.*

Case XX.—M. H., aged twenty-eight, first pregnancy; admitted 2nd May, 1885. Pains commenced last day of April; os small and rigid; anasarca of legs; urine muddy and albuminous. Delivered with forceps, morning of the 5th. Died 17th May. *Post mortem* by Dr. Lentaigne—Pneumonia and Bright's disease.

Case XXI.—K. F., a nursetender in the hospital, aged twenty-one; first pregnancy. Suddenly got convulsions on evening of 5th June, 1885. Legs and feet were found to be very œdematous. Urine contained blood, and on boiling two-thirds became solid. Was delivered with forceps; no hæmorrhage. Died next morning, never having regained consciousness. No *post mortem.*

Case XXII.—M. B., aged thirty-three, sixth pregnancy, admitted 25th July, 1885, when she stated she had had hæmorrhage for 14 days, but when examined there appeared to be scarcely any coming; placenta felt partially over os, membranes were therefore ruptured. There being a fœtid discharge later on, with rise of temperature and shivering, forceps were applied and delivery effected with ease. Failing to express placenta after a considerable time, it was decided to introduce the hand

into the uterus, for which purpose a few whiffs of chloroform were being given, but before she was under the influence of it she suddenly ceased to breathe, and all efforts failed to revive her. No *post mortem.*

Case XXIII.—B. C., aged forty, thirteenth pregnancy, admitted 18th Aug., 1885, having a very pendulous abdomen. A large quantity of liquor amnii being diagnosticated the membranes were ruptured. Patient had had bronchitis, and stated she had been unable to turn in bed on account of great tenderness of abdomen. Delivered by natural efforts day of admission, but in three days had green vomit, and in five days more a distinct tumour, dull and elastic, could be felt in middle line of abdomen. She had diarrhœa, with pus and blood in motions. There was considerable œdema of abdominal wall. Skin over tumour sloughed, and as patient was passing water the slough gave way and a quantity of brown, grumous, very fœtid, fluid escaped. Improved after that, and insisted on leaving hospital 3rd September, but sought re-admission after some time, when skin was found to be excoriated from the profuse discharge and want of cleanliness. Died 23rd September. No *post mortem.*

Case XXIV.—L. S., aged twenty-eight, private patient, third pregnancy, admitted 22nd October, 1885, having had considerable amount of accidental hæmorrhage, which stopped when she was put to bed. Hæmorrhage again set in 23rd, checked by ergot. Vomited on 24th, when there was a little more bleeding, and uterus contracting frequently that night; two fingers passed through os, and foot, which was presenting, brought down; funis, which was not pulsating, prolapsed; child extracted; no hæmorrhage. Some hours after retching came on, and patient sat up, when a gush of blood came and patient fainted; previously had complained of pain in cardiac region. Iron injected. No more hæmorrhage, but patient died of exhaustion on 28th. No *post mortem.*

Case XXV.—R. B., aged twenty-eight, second pregnancy, admitted 27th October, 1885, with retained placenta, having miscarried two days previously at her own home. Discharge was fœtid, on account of which the uterus was being douched out, when profuse hæmorrhage came on. Fingers were passed into uterus to remove placenta, during which process the patient seemed to faint. Iron injected to stop hæmorrhage, and every means tried to revive her without effect. *Post mortem* by Dr. Lentaigne, who could find nothing wrong. Death supposed to be due to syncope.

Case XXVI.—A. E., aged twenty-two, first pregnancy, admitted 31st October, 1885; delivered same day; died 9th November, 1885, of puerperal peritonitis. No *post mortem.*

Case XXVII.—T. L., aged twenty, first pregnancy, admitted 18th October, 1885; delivered 19th; breech presentation. Symptoms of cellulitis developed fifth day, and afterwards inflammation invaded peritoneum; died 10th November of puerperal peritonitis. No *post mortem.*

Case XXVIII.—M. H., aged twenty-four, first pregnancy, admitted 15th October, 1885; delivered 16th; died of exhaustion from pyæmia 15th November, 1885. No *post mortem*.

Case XXIX.—M. M., aged twenty one, first pregnancy, admitted 13th November, 1885; delivered 14th; died 25th November of septicæmia.

Case XXX.—A. M'C., aged twenty-two, first pregnancy; admitted 7th December, 1885. Had been in hospital from 19th November till 23rd, as she had had some hæmorrhage, but as it ceased she would not remain any longer. Placenta prævia lateralis was diagnosticated, and as the hæmorrhage was very bad, child's head was perforated, and delivery accomplished 8th December. There being some *post-partum* hæmorrhage, placenta, which was still attached to uterus, was removed, and iron injected. Died, 30th December, of exhaustion from pyæmia.

Case XXXI.—A. M'P., aged twenty-five; fifth pregnancy. Patient brought to hospital in a stupid and almost pulseless state, having been attended for fourteen days previously from the hospital for constant vomiting. Labour began evening, 25th December, 1885. There was some hæmorrhage, and placenta was felt at edge of os; membranes were therefore ruptured. Delivered at 1 30 a.m., 26th, of a premature child, and died 30th December, 1885. *Post mortem* by Dr. Lentaigne, who found there was hæmorrhage into stomach.

Case XXXII.—M. C., aged thirty-five, twelfth pregnancy; sent to Rotunda by Dr. Reede, of Carrickmacross, 2nd January, 1886; patient having had several miscarriages, and also because her legs and abdomen were very œdematous, there was excess of liquor amnii. The membranes were ruptured 7th January, when, with liquor amnii, a considerable amount of blood escaped. Labour accomplished with but very little trouble, though child's head, neck, and body were very œdematous, and abdomen distended with ascitic-like fluid, which was tapped, endeavouring to allow room for expansion of lungs; heart was pulsating, but all efforts failed to establish respiration. There was an enormous fatty placenta. Patient died of asthenia from pyæmia, 20th January. No *post mortem*.

Case XXXIII.—E. N., aged thirty-nine, ninth pregnancy, admitted 25th March, 1886, having had hæmorrhage for four months. When examined, placenta was felt, and the hæmorrhage being profuse the child was turned and extracted. The placenta, which was still attached, was removed immediately. Although there was not much *post-partum* hæmorrhage, as the woman was sinking, perchloride of iron was injected and transfusion of saline solution, but patient died in a very short time (25th March). No *post mortem*.

Case XXXIV.—M. D., aged twenty-seven, private patient, second pregnancy; admitted 2nd March, 1886; delivered before she could be

examined or properly undressed. Died of exhaustion, from pyæmia, 9th April, more than five weeks after delivery. No *post mortem.*

Case XXXV.—M. F., aged forty, fifth pregnancy; admitted 19th May, 1886; delivered 20th. Died of septicæmia, 30th May, 1886. No *post mortem.*

Case XXXVI.—E. K., aged seventeen, first pregnancy; admitted 30th April, 1886, in an unconscious state, from convulsions; urine, one-fourth albumen. Child born on 1st May. Consciousness returned 2nd May, became maniacal on 5th, and died 10th May, 1886. No *post mortem.*

Case XXXVII.—E. J., aged twenty-three, first pregnancy; admitted 1st June, 1886; delivered same day. Became maniacal. Died 19th June, 1886, of septicæmia.

Case XXXVIII.—J. M'K., aged thirty, sixth pregnancy; admitted 30th July, 1886, suffering from accidental hæmorrhage. Labour had commenced. Ergot and stimulants administered and membranes ruptured, but as this did not check the hæmorrhage, and the os being small, and patient very low, the child's head was perforated and delivery effected without much trouble. Placenta, which was still attached, removed immediately, and iron injected, but as patient was evidently sinking she was transfused with saline solution, which had a marked temporary effect; but she died two and a half hours afterwards. No *post mortem.*

Case XXXIX.—C. K., aged thirty, second pregnancy; admitted 2nd August, 1886; delivered 3rd; was suffering from bronchitis, and stated she had always had a bad chest. Died 12th August, with symptoms of pleuro-pneumonia. No *post mortem.*

Case XL.—K. K., aged twenty-five, fourth pregnancy; admitted 20th August, 1886, in an almost collapsed state from phthisis. Seen by Dr. Wallace Beatty. Died of acute phthisis, with pneumo-thorax, 14th September, 1886.

Case XLI.—B. B., aged twenty, first pregnancy; brought to hospital in an unconscious state from hæmorrhage, from which she had suffered during the passage from Liverpool the previous night. When first seen she was lying on the floor of a lodging-house at the North-wall, almost naked, quite insensible and cold. All means tried to produce reaction, when admitted, with some success at first, but hæmorrhage again came on, and when examined a hydatidiform mole found, which was removed without much difficulty or bleeding. Perchloride of iron injected, but as patient was sinking she was transfused with saline solution, without effect.

Case XLII.—J. K., aged seventeen, first pregnancy; admitted 26th January, 1884; delivered same day of a 4½ lbs. child, which died two

days after its birth. Patient had well-marked venereal rash, and vulva was covered with warts. Became jaundiced two days after delivery. Left hospital on the tenth day after delivery, having signed a declaration that she was doing so contrary to the wishes of the staff, and died at home, 11th February, 1884, of symptoms of acute yellow atrophy of the liver.

Case XLIII.—B. K., aged eighteen, first pregnancy; admitted 29th June, 1886; delivered same day of a 9½ lbs. child, by natural efforts. Taken out of hospital 11th July by her father, who signed a declaration that he did so contrary to the wishes of the staff. Died 12th July, 1886, of septicæmia.

These 43 cases include all deaths which could in any way be connected with delivery, inquiries being instituted from time to time with respect to any patient who left the hospital in a state not entirely satisfactory. There was no patient transferred to any other hospital during the time. It will be observed, in reading over the particulars of the 43 cases, that two patients died over five weeks, one over four weeks, and three over three weeks after delivery. Such cases are frequently omitted in calculating the puerperal mortality owing to the length of time that had elapsed since their delivery. From these notes it will be seen that seven deaths were due to hæmorrhage, two to acute yellow atrophy of the liver, three to convulsions, one to exhaustion from discharge from encysted peritonitis, one to congestion of the lungs, three to phthisis, one to tuberculosis of lungs and brain, one to acute bronchitis, three to pleuro-pneumonia, one to pneumonia and Bright's disease, one to syncope, one to excessive vomiting, with hæmatemesis, eighteen to septicæmia.

These 18 cases of death from any form of septic infection give a mortality of ·52 per cent., or 1 in 189·6; but I consider a better criterion of the health of the hospital is the number of patients who had absolutely normal temperatures and pulses during the puerperal state. I take what is considered by most authorities as the maximum physiological temperature—namely, 100·4° F., or 38° C., and I find that the percentage of cases which did not exceed this maximum at any time during the puerperal state to be for the three years as follows:—In 1884, 74·66; in 1885, 83·54; and in 1886, 85·75. I consider that the above percentages might fairly be increased, for there are many slight causes which might temporarily raise the temperature—as, for instance, constipation, pain from distended breasts, nervous excitement and fretting, which latter are

often observed after a visiting day, owing to the reception of bad news, or such as the case which just occurs to me of a woman whose perinæum I had sutured being told by an adjacent patient that she would die if the stitches gave way. To this alone could be attributed a sudden elevation of temperature, which came down again next morning to normal. Also, it must be borne in mind that for 12 hours after delivery the temperature gradually rises, and if this increase coincides with the evening rise it may exceed the normal maximum, especially if labour had been difficult, with, perhaps, temperature at 102° or 103° F. before delivery, and, therefore, to give a true chart, the temperature for the first 12 hours should not be considered, yet in my records I have done so.

The temperatures are taken in the Rotunda only at stated periods, morning and evening, unless for special reason to the contrary.

I will now give a short table of the cases of abnormal temperatures—*i.e.*, those exceeding 100·4° F., or 38° C.—and in order to simplify it as far as possible, I have tabulated the cases according to centigrade scale.:—

	1883–84	1884–85	1885–86	Total
Number of patients in hospital each year -	1,109	1,112	1,193	3,414
Temperature exceeding 38° C. or 100·4° F., but not exceeding 39° C., or 102·2° F. -	176	94	93	363
Temperature exceeding 39° C.. or 102·2° F., but not exceeding 40° C., or 104° F. -	86	68	58	212
Temperature exceeding 40° C., or 104° F., but not exceeding 41° C., or 105·8° F. - -	19	21	17	57
Temperature exceeding 41° C.. or 105·8° F., but not exceeding 42° C., or 107·6° F. -	—	—	2	2
Sum total for each year of abnormal temperatures - - - - -	281	183	170	634

I find there has been a yearly increase in the number of patients in the labour wards during the three years. In Dr. Macan's Report he mentions that the number of women attended during the year ending November, 1883, was 1,090; for the year ending November, 1884, the number, as I make it, was 1,109; in 1885, 1,112; and last year it reached as high as 1,193.

Thus, not only has there been an annual increase in the number

of patients, but, as can be seen by referring to the foregoing table, the general health of the hospital has improved.

I come now to consider the forceps cases. There were 203 women delivered by that means—a percentage of 5·96, or 1 in 16·75. Of these 6 died, only 2, however, of the 6 from septicæmia—1 being the patient with a fœtid discharge when admitted, whose case (No. 12) I have already given the particulars of. These 6 cases give a mortality of 2·95 per cent., or 1 in 33·83 in forceps cases. The forceps are not applied unless there are positive indications to warrant their application either on the part of the mother or the child. Those on the part of the mother are, I think, too familiar to require mention, but those on the part of the child which we considered indicated danger to life are either a very quick or very slow fœtal heart, or the escape of meconium per vaginam when the head presented.

Dr. Neville's axis-traction forceps is the one most frequently used of late, and it appears to act very well. It has, I think, many advantages over the axis-traction with rods, being more portable, more easily applied, distends the perinæum less, can be used, if desired, as a simple forceps, can be more thoroughly cleansed, and there is no danger of injuring the vagina, as may sometimes happen when using the other pattern, by the mucous membrane being caught between the blades and rod.

A subject to which I particularly wish to draw the attention of the members is the treatment of retained placenta, and especially when the placenta is adherent. I divide this subject into two classes—1. Cases of simple retained placenta; 2. Cases of retained adherent placenta. The first of these classes I sub-divide into two heads—namely, cases without irregular contraction, and cases of irregular contraction.

The treatment of retained placenta without irregular contraction is very simple, provided the bladder be empty, but simple as the proper treatment is, I am convinced that the hand is often unnecessarily passed into the uterus to remove it.

The instruction formerly given was that the hand should be kept exerting steady pressure on the fundus of the uterus during the third stage of labour. But if this be not properly done it will, instead of doing good, actually do harm, for, as the fundus is occasionally deflected to either side (usually the left), when pressure is made in the mesial line in the hope of expressing the placenta, the lateral flexion is still more increased thereby, folding the uterus as

it were on itself, and pressing the placenta towards the fundus rather than from it through the os. I consider that the present practice of the hospital—*i.e.*, moving the fingers lightly over the uterus—is preferable, and certainly much less tiresome to the hands than the steady pressure.

Of simple retained placenta I have seen some cases where the treatment was very simple—namely, raising the fundus out of its abnormal position, when the placenta was immediately expelled without any pressure being exercised.

Cases of irregular or hour-glass contraction, a well-known expression, are sometimes met with in the third stage, and are said to occasionally occur naturally, but I believe the condition is much more frequently produced artificially by the hand being placed during this stage not on the fundus but somewhat lower down—possibly at the "ring of Bandl," and pressure and friction there continually used, exciting and causing the circular fibres situated in that particular part of the uterus to contract tonically. If this contraction ring be below the edge of the placenta it will prevent it from getting down into the lower segment of the uterus, or it may be gripped by the ring, in either case, perhaps, necessitating the introduction of the hand for its removal.

In cases of retained placenta due to irregular contraction, whether naturally or artificially produced, the difficulty may, I think, be sometimes overcome by removing the hand from the uterus, especially if not properly applied, and douching it out well, preferably with hot antiseptic solution, but in its absence with plain water.

When the placenta is adherent I believe the proper treatment is to pass the hand or fingers into the uterus and detach it, although I have been informed that some Continental obstetricians allow the placenta in such cases to remain for even a month after delivery (unless there is hæmorrhage or symptoms of septicæmia), especially in the cases where the patients have not come to their full time. I consider, however, that if the operator's hands be not perfectly aseptic, this is the most dangerous of all operations met with in midwifery practice, except the Cæsarean section. It has been recommended by some authorities to keep the fingers inside the membranes during the operation, but there are many cases met with where, owing to the friable nature of the placenta, necessitating the removal of small pieces at a time, this is impossible. Should there be any septic infection about the hand, and especially about

the nails, the usual seat of such poison, I fail to see how such a patient can escape becoming infected; for it is analogous to vaccination, except that virulent poison is substituted for healthy lymph, and with unfortunately greater likelihood of its taking effect, owing probably to the prolonged contact. The uterus, except where it has been already douched out with the hope of getting the placenta away, as I have already mentioned, is always douched with antiseptic solution prior to introducing the hand. Although the left hand is recommended by many as being smaller and corresponding more with the pelvic curve, the right hand is the one generally used, for, the patient being in the obstetrical position usual in this country, the fundus of the uterus can be better and more easily supported by the left hand (the operator standing at the patient's back). Nor can an assistant, no matter how experienced he may be, support the uterus so satisfactorily as the operator himself, who knows the exact part of the uterus requiring pressure so as to bring that particular part of the uterine wall nearer to the introduced hand, and who is able to remove it to some other part the moment required.

An anæsthetic, usually chloroform, is nearly always administered, in order that, if necessary, the hand may be passed in a second time where doubt exists whether all the placental tissue has been detached; for if the patient be perfectly conscious of what is being done, the operator must be very resolute to be able to withstand her solicitation not to pass the hand a second time, and I consider that, once the hand is introduced, the operation should be persevered in to entire completion. When satisfied on this point, the uterus should be again douched out with antiseptic solution. I have recorded, in Table A, 37 cases of adherent placenta removed during the three years, giving a percentage of 1·08, or 1 in 91·95. Of these 37 patients 6 died, giving a mortality of 16·2, or 1 in 6·16. This, no doubt, seems a large mortality, but it is not so large as that recorded by the late Dr. M'Clintock, as observed by himself and Dr. Hardy in the Rotunda, where, out of 28 cases 10 died, giving a percentage of 35·7, or 1 in 2·8, fatal cases. Of the 10 deaths 9 were from puerperal fever.

The above six fatal cases cannot, however, all be attributed to the operation, as in three death took place immediately after the children were born—in order that perchloride of iron might be injected owing to severe *ante-partum* hæmorrhage—two of which three died within two and a half hours after delivery; the third (No. 30 in Table of Deaths) died of pyæmia; another was a case

of convulsions, the woman never having recovered consciousness; the fifth was a case of death from syncope (No. 25), death occurring almost before the placenta was removed, which had been retained for two days with considerable hæmorrhage; in the sixth case death resulted from septicæmia (No. 12). The particulars of this case I have already referred to in connection with the forceps cases, but hope I shall be excused for reminding you that the placenta when removed had a very fœtid smell. Thus, of the six deaths only two were due to septicæmia, or 1 in 18·5, or 5·4 per cent.

When the perinæum is lacerated over $\frac{3}{4}$ of an inch in extent, the practice is, having douched out the vagina with antiseptic solution, to suture immediately either with silk or catgut (using in the latter the continuous suture).

The results have been very satisfactory, chiefly owing, I think, to the stitches being inserted deeply so as to bring the whole of the torn surface into apposition. For if this be not done the lochia would probably collect between the edges of the wound, causing them to become unhealthy, especially should the discharge be fœtid, and this unhealthy condition when once produced is very likely to go deeper, until possibly it might invade the whole depth of the perinæum, causing the stitches to slough out, and the wound to gape widely open. I consider that a patient whose perinæum has been lacerated in the first confinement (especially if the child were large), and that it has afterwards united properly, is much less likely to subsequently suffer from prolapse than if the perinæum remained intact, for in the latter case it would show that the parts were very relaxed.

Before concluding I shall briefly refer to some of the subjects to which Dr. Macan alluded at the end of his Report. Concerning the retention of a portion of the membranes, the practice of the hospital is to make gentle traction, having as a rule tied a ligature on it as close to the vulva as possible, and thereby gaining a firm hold so that it can be twisted into a cord or rope-like body, whereby the chance of breakage is reduced. Should, however, the membranes break well inside the vulva, the best course is to allow them to remain there, but the douche may be used, which may possibly cause the piece to come away, and will in any event be beneficial if an antiseptic solution be employed. This course is far preferable to introducing the fingers or hands, whereby air is introduced—a fertile source of fœtid discharge. I cannot recall a case where the adoption of the course I recommend was to be regretted. As to hæmorrhage,

I do not consider it is ever traceable to the retained membrane, but to the imperfect contraction, which is the very cause of the membrane not being expelled.

The prophylactic antiseptic treatment of ophthalmia neonatorum is never adopted until the disease is actually manifest. Both eyes, even though only one shows symptoms, are then treated with nitrate of silver solution, 8 grains to the ounce—pieces of lint dipped in cold water meantime being constantly kept on the affected eye or eyes. Where one eye only is affected, it would be well to have the other bandaged up so as to prevent contamination by the discharge coming in contact with it. Such a bandage is, however, difficult of application. The number of these cases recorded for the three years was 34—possibly there may have been two or three more unrecorded; this is a percentage of ·99, or, in round numbers, 1 in 100, which, when compared with other nationalities, is very low.

Infantile asphyxia is treated according to Schultze's method, which, perhaps, I shall be pardoned for endeavouring to describe. First the finger is passed into the child's mouth, and the mucus removed as far as possible. The child is then placed on its back, and the operator's hands are put under its back so that they lie at each side of the spine, the fingers in the direction of the child's lower extremities, and its head resting, or partially resting, between the ulnar side of the operator's hands. The index fingers are then passed underneath the axillæ from behind forwards, the remaining fingers continuing to support the back. The operator now stands up, allowing the child to hang with its feet downwards. The child is now swung upwards so as to cause the legs to fall over the body, and the thorax to be compressed by the thumbs, and then after an interval the legs are swung back to the original position, so that the child will be, as it were, in the vertical or standing position, from whence it is again hoisted to the second position. This movement is repeated eight or ten times, and then the child is placed in a warm bath for a few minutes, during which time any mucus that has collected in the larynx is removed by aspiration through a catheter. Not alone is there compression and expansion of the thorax, but the mucus is frequently ejected into the mouth when the child is swung into the second position. Care should be taken not to jerk the child, lest some of the internal viscera should be thereby injured.

The incubator has, I am satisfied, been the means of saving the lives of many infants, as, notwithstanding the efforts of the mothers

to keep up warmth, I have seen the extremities of the child become scleromatous and frequently assume an almost erysipelatous appearance, feeling quite cold, accompanied with inability to draw the breast, and marked fall of temperature, yet when these infants were placed in the incubator an improvement was visible in 24 hours, and generally after a further 24 hours the child seemed completely restored, with the swelling gone, colour natural, extremities warm, and perfect ability to take the breast. I should mention that such children always get wine-whey. It has been urged against the incubator that when the children are taken out, and especially if taken home, they are liable to die. This I do not admit in the sense in which it is used, as if a child has improved in health it must be better able to meet further attacks and the absence of proper care. The fact that in some cases the incubator fails to save a life will not show that it is inefficient in all cases, and where the incubator fails, in my opinion, the life of the child is fated in any event to be a short one.

For the statistics of the external maternity I am indebted to J. H. Knowles, M.D., ex-Clinical Clerk, who furnished the following.

Total number of cases for the three years, 4,766.

TABLE B.

Forceps	81, or 1·699 per cent.	= 1 in	58·83
Version	10 „ 0·209 „	= 1 „	476·6
Accidental hæmorrhage	16 „ 0·335 „	= 1 „	297·25
Placenta prævia	11 „ 0·230 „	= 1 „	433·27
Post partum hæmorrhage	40 „ 0·839 „	= 1 „	119·15
Secondary post partum hæmorrhage	5		
Adherent placenta	11 „ 0·230 „	= 1 „	433·27
Breech	75 „ 1·573 „	= 1 „	63·54
Footling	20 „ 0·419 „	= 1 „	238·3
Prolapse of funis	16 „ 0·335 „	= 1 „	297·87
Face	18 „ 0·337 „	= 1 „	264·77
Twins	48 „ 1·007 „	= 1 „	99·08
Deaths	16 „ 0·33 „	= 1 „	297·87

Six of the deaths were from septicæmia; 2 of the patients died in the Auxiliary Hospital. Perchloride of iron injected in one case of *post-partum* hæmorrhage.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON PRACTICE OF MEDICINE.

1. *A Text-book of Medicine for Students and Practitioners.* By Dr. Adolf Strümpell, Professor and Director of the Medical Clinique at Erlangen. Translated, by permission, from the second and third German Editions by Herman F. Vickery, A.B., M.D., and Philip Coombs Knapp, A.M., M.D. With Editorial Notes by Frederick C. Shattuck, A.M., M.D. London: H. K. Lewis. 1887. 8vo. Pp. 981.

2. *A Treatise on the Principles and Practice of Medicine; designed for the Use of Practitioners and Students of Medicine.* By Austin Flint, M.D., LL.D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, New York, &c. Sixth Edition, revised and largely re-written by the Author, assisted by William H. Welch, M.D., Professor of Pathology in John Hopkins University, Baltimore, and Austin Flint, M.D., LL.D., Professor of Physiology in the Bellevue Hospital Medical College, New York. London: J. & A. Churchill. 1886. 8vo. Pp. 1160.

3. *A Treatise on the Theory and Practice of Medicine.* By John Syer Bristowe, M.D. Lond., LL.D. Edin., F.R.S., Fellow and Censor of the Royal College of Physicians; Senior Physician to and Lecturer on Medicine at St. Thomas's Hospital; formerly President of the Pathological Society and Society of Medical Officers of Health. Sixth Edition. London: Smith, Elder, & Co. 1887. 8vo. Pp. 1269.

[*Continued from page 390, and concluded.*]

Strümpell's great work may be regarded as the index to Medical Thought as it exists in Germany at the present day, so the equally important contribution to medical literature which we have next to notice represents the position which medical thought and practice now occupy in the United States of America.

2. The careful and thorough revision, of which the sixth edition of Dr. Austin Flint's work is the result, was completed by the author's own hand in March, 1886. He was assisted, as in the revision for the fifth edition, by Dr. William H. Welch, the Professor of Pathology in John Hopkins University, Baltimore. A year later, at midnight of March 12, 1887, the talented author was attacked with cerebral apoplexy, which a few hours afterwards put an end to his useful and honourable life. Dr. Flint, who came of a long line of physicians of repute, was born at Petersham, Massachusetts, on October 20, 1812. He received his medical education at Harvard College, where he graduated as Doctor of Medicine in 1833. He practised in turn at Northampton (Massachusetts), Boston, Buffalo, Louisville, and New Orleans. In 1861 he removed to New York, having been elected Professor of the Practice of Medicine and Clinical Medicine in Bellevue Hospital, as well as Professor of Pathology and Medicine in the Long Island College Hospital. This latter Chair he resigned seven years later; but he retained his connection with the Bellevue Hospital and its College up to the time of his death. Dr. Austin Flint was a prolific and a finished writer. In 1846 he founded the *Buffalo Medical Journal*, which he edited with conspicuous ability for ten years. His "Treatise on the Principles and Practice of Medicine" was first published in 1866, and in twenty years went through six editions—the last of these is that now under review, the appearance of which the author just lived to see.

As pointed out by his son, Dr. Austin Flint, jun., the Professor of Physiology in the Bellevue Hospital Medical College, "the basis of the work is an unbroken series of records of cases in private practice and in hospitals, begun in 1833 and continued for more than half a century, covering sixteen thousand nine hundred and twenty-two folio pages of manuscript, written with the author's own hand. These records embrace carefully-written histories of cases in all departments of practical medicine, observed under varied conditions of life, climate, and general surroundings. Added to a literary training and a recorded experience almost without parallel, was an exceptional knowledge and application of the best methods of teaching medicine, rendering the author one of the most popular and successful medical teachers of his time—a statement which will be echoed by thousands of practitioners, throughout this country (America) and in foreign lands, who have attended his lectures. The lectures given by the author, in 1885–86, com-

pleted his fiftieth regular course on the Principles and Practice of Medicine."

The book opens with an introductory chapter on such topics as the scope of the term "Medicine," the meaning of the phrase "Principles and Practice of Medicine," the definition of "Pathology," the Nomenclature of Diseases, Ætiology, Symptomatology, Diagnosis, Prognosis, Prophylaxis, and Therapeutics, with the relation of these sub-divisions to Special as well as to General Pathology, definition of Disease and of Health, the relationship of Pathology to Physiology and the progress of pathological knowledge. Dr. Flint admits the difficulty of defining what disease and health are—as regards the former, he adopts Chomel's definition as being perhaps as good as any other, namely—"Un désordre notable survenu, soit dans la disposition matérielle des parties constituentes du corps vivant, soit dans l'exercise des fonctions."

The work is divided into two parts. Part I. extends over 84 pages only, and treats of Principles of Medicine, or General Pathology, embracing disturbances of the circulation, inflammation, active and passive alterations of the tissues, and the general pathology of the blood. Under the first heading, Dr. Flint includes local anæmia or ischæmia, hyperæmia, hæmorrhage, thrombosis and embolism, and dropsy. As an example of the lucid style which is so characteristic of the author, we may quote his definition of "Hypertrophy" (page 40)—"The term hypertrophy," he writes, "is applied to enlargement of a part from an increase of its normal constituents, the structure and arrangement remaining essentially the same. . . Two forms of hypertrophy have been distinguished—namely, *simple*, or *true hypertrophy*, and *numerical hypertrophy*, or *hyperplasia*. In simple hypertrophy there is an increase in the size of the anatomical elements, but not in their number; in hyperplasia the number of these elements is augmented." At page 51, allusion is made to the correlative terms, *simple atrophy* and *numerical atrophy*, or *aplasia*—a division which Dr. Flint rightly thinks "is not of practical importance."

At page 47 there is a wrong spelling—"actinomycis" instead of "actinomyces," the ray-fungus, the term being derived from *ἀκτίς* and *μύκης*. This error occurs in Chapter IV., on "Infectious Tumours," or "Tumors," as Dr. Flint of course spells the word. We prefer the longer form, as being etymologically more correct, "tumour" coming to us through the French "tumeur," rather than directly from the Latin "tumor." The infectious tumours

are syphiloma or gumma, the nodules of leprosy and of glanders, actinomycosis, tubercle, and scrofula. In Chapter V., on "Passive Alterations of the Tissues," some of the descriptive definitions are excellent. Take, for example, those of parenchymatous degeneration; mucoid, colloid, and amyloid or waxy degenerations; and pigmentation.

Chapters VI. and VII., on the "General Pathology of the Blood," are well worth reading. Dr. Flint gives the chief theories which have been put forward to explain glycohæmia and glycosuria in diabetes mellitus, but adds—"Until we have more positive knowledge as to the source of sugar in the healthy organism, and as to its metamorphoses, we cannot hope for any satisfactory explanation of the abnormal accumulation of sugar in the blood and in the urine in diabetes mellitus" (page 72). He sums up the pathology of uræmia as follows:—"The uræmic symptoms are the result of the retention in the system of excrementitious materials. It is the entire mass of waste products, and not any single element, which is the source of trouble. The nature of these waste materials is very imperfectly known. They probably consist mainly of nitrogenous substances in different conditions of the metamorphosis of which urea is the final stage. The non-elimination of the excrementory products causes an incomplete metamorphosis of the waste nitrogenous elements. These are retained, not only in the blood, but finally in the tissues. The nutritive processes are thereby disturbed. As the uræmic symptoms are chiefly of nervous origin, it is necessary to emphasise especially the disturbance of nutrition of the nervous system" (page 75).

In the chapter on the Causes of Disease there is a series of definitions, some of which are somewhat novel. Thus, *Infection* is held to denote "any causative agent which, under certain conditions, is capable of unlimited increase or multiplication." According to this definition, an infectious disease may or may not be communicable by means of a contagium. If communicable, it is an infectious contagious disease; if not communicable, it is an infectious miasmatic disease.

In the concluding chapter of the first part of the work, Dr. Flint treats of Prophylaxis and General Therapeutics. In connection with the latter subject, he quotes, with approval, the time-honoured aphorisms, "Vis medicatrix Naturæ," "Medicus Naturæ minister, non magister est." "Medicus curat, sed Natura sanat, morbos."

Part II. is devoted to Practice of Medicine, or Special Pathology. The classification of Diseases, which the author has adopted, is that into *general* and *local* diseases—the former being those which involve more or less disturbance of the whole system, local affections, if they occur, being developed secondarily. To this class, therefore, the essential fevers belong; and so also do diseases like syphilis, rheumatism and gout, in which the local manifestations have no fixed seat and sometimes differ in character. The number of local diseases is far greater than that embraced in the first division. They are conveniently distributed into groups corresponding to the distribution of the different organs of the body into physical systems. We have, therefore, six sections, in which are considered the diseases which affect the respiratory, circulatory, hæmatopoietic, digestive (or chylopoietic), nervous, and geneto-urinary systems respectively.

It is not easy to see what determined the position of nervous diseases in this arrangement, and we observe one notable omission—namely, diseases of the skin. The author explains this omission by saying that "diseases of the skin, being external, belong to surgery," and further alleges "as an additional reason for not including them among the diseases to be considered in this work," that "*there are many treatises devoted specially to their consideration.*" On the very same grounds, he might omit any account of typhus or smallpox.

In this review we can but notice a few of the novel points in Dr. Flint's work. Of this a very striking one is the unqualified acceptance by the author of the doctrine that pneumonia is an essential fever. He writes:—

"Acute lobar pneumonitis is the disease called by German writers *croupous pneumonia.* By others, especially French writers, it is sometimes called *fibrinous pneumonitis.* According to the view which will be presented in treating of the pathological character of the disease, each of these names is incorrect, and they all imply that the disease is a purely local inflammation, whereas there are sufficient grounds for regarding it as an essential fever. A more appropriate name, therefore, is pneumonic fever. The name acute lobar pneumonitis is here retained in conformity with usage and for the sake of convenience for reference" (page 152).

With respect to the situation and extent of the local affection, the following are the results of a critical analysis of 121 cases by the author. In 29 cases, the pneumonitis was limited to the

lower lobe of the *right*, and in 25 cases to the lower lobe of the *left* lung. It extended over the whole of the *right* lung in 27, and over the whole of the *left* lung in 9 cases. It was limited to the upper lobe of the *right* lung in 8, and to the upper lobe of the *left* lung in 3 cases. It was seated in the lower lobe of both lungs in 8 cases. The distribution in the remaining 12 cases is not specified. Dr. Flint holds that clinical evidence seems inadequate to prove the contagiousness of the disease. Instances in which persons in the same neighbourhood and members of the same household are attacked successively may be explained by supposing an exposure in common to an extrinsic cause. "Yet if it be demonstrated that the disease can be produced in an inferior animal by inoculation, this fact is proof of communicability, and its apparent incongruity with clinical experience is to be accounted for, as in the instance of pulmonary phthisis, by supposing a peculiar predisposition, or, in other words, a favourable soil, to be an essential factor in the causation" (page 161).

Our own opinion with regard to acute pneumonia is that perhaps several diseases of the lungs are included under this term. For example, there is no doubt that sometimes a pneumonia is nothing more than an attack of erysipelas of the lungs, nor is there anything preposterous in the idea that we may have the chief local manifestations of typhoid or enteric fever showing themselves as a pneumonia. We are not sure that we have not seen cases of this kind following the inhalation (as distinguished from the swallowing) of the specific poison of this fever. Again, septicæmia of the lungs may show itself as nothing more than an attack of acute pneumonia. According to this view, pneumonia is a generic term including several species of secondary lung affections, in which the pathological conditions are not very variable in certain stages of the malady.

Another notable point in the work before us is the common-sense, yet scientific classification of Bright's disease of the kidneys, which Dr. Flint adopts. It speaks of acute Bright's disease as *acute diffuse nephritis*, and embraces all of the different forms of chronic Bright's disease under the name *chronic diffuse nephritis*. "This classification," observes the author, "recognises the fact that in all of these forms there are both interstitial and parenchymatous changes. It does not consider the preponderance of parenchymatous alterations in one case and of interstitial alterations in another, as a satisfactory reason for distingishing a parenchymatous

from an interstitial nephritis, especially as there may exist every possible degree of combination between these two changes" (page 874).

The three main forms, then, of chronic diffuse nephritis are:— 1. The simple large kidney, without waxy degeneration, which may be red or mottled (Strümpell's "chronic hæmorrhagic nephritis," in the form of the large red or variegated kidney), or white (preferably, yellow). 2. The large kidney, with waxy degeneration— a form which embraces a large proportion of the cases developed in connection with phthisis, syphilis, chronic suppurations, and severe cachexia. 3. The small granular kidney, of which form at least three varieties may be recognised—namely, one representing an atrophic stage of the large kidney without waxy degeneration; a second representing the same stage of the large waxy kidney; and a third, being the genuine contracted kidney, of which no stage of enlargement exists. The first two are called secondarily-contracted kidneys. The primarily-contracted small granular kidney is also called genuine-contracted kidney, small red kidney, granular atrophy of the kidney, cirrhosis or sclerosis of the kidney, chronic interstitial nephritis, and chronic degenerative nephritis of Johnson. There is no serious objection to any of these names except the last, which is manifestly wrong as applied to the primarily-contracted variety of chronic diffuse nephritis.

The seventh section of the Second Part of Dr. Flint's work treats of "Fevers and other General Diseases." The author adopts the usual symptomatic classification of fevers—namely, Febricula, Continued Fevers (including "Erysipelatous" fever), Periodical Fevers, such as intermittent, remittent, typho-malarial, yellow fever, and dengue; and Eruptive or Exanthematous Fevers. On an ætiological basis, he gives the classification into miasmatic, contagious, and miasmatic-contagious fevers. The malarial fevers are the type of the *miasmatic* forms. Probably pneumonia, and perhaps acute articular rheumatism are also to be included in this category. *Contagious* fevers are smallpox, chicken-pox, scarlet fever, measles, rötheln, typhus fever, and relapsing fever. As *miasmatic-contagious* are reckoned typhoid fever, yellow fever and dengue. Epidemic dysentery and Asiatic cholera are also to be regarded as belonging to this class.

We are sorry that Dr. Flint has thought it necessary to describe "Roseola" separately from "Rötheln." Of the former he says (page 1071):—"The eruptive fever called *roseola* or *rose-rash*,

and sometimes called *false measles*, is an affection of very little importance, exclusive of its liability to be mistaken for rubeola or scarlatina." Then, on the very next page, he writes, under the heading "Rötheln":—"The affection called by German writers *Rötheln* and rubeola (*German* measles), and called also rubella, is probably not a new disease in this country (*i.e.*, America), but it was formerly confounded with measles, with roseola, or with scarlet fever." To our mind, the differential diagnosis between roseola (rose-rash) and rötheln is neither possible nor desirable.

Appended to Chapter IX., on "Diphtheria," is an account of "Milk Sickness" (a disease known in the lower animals as the "Trembles"), a peculiar and specific affection which has gradually receded before the advances of improved agriculture in the Western States. The symptoms suggest an intense gastritis, but nothing is positively known concerning the pathology of milk sickness, which derives its name from the belief that the disease is communicated to man by the use of the milk of cows affected with the trembles.

Enough has been shown in the foregoing pages to prove that this is no ordinary or commonplace work, but one which will do much to enhance the reputation of the deeply-lamented author, to whom the medical world owes so much as an accurate observer, a ready writer, an able physician, and a good man.

3. The third volume on our list of works on Practice of Medicine has been so long before the medical public, and has received so many encomiums at the hands of reviewers, that no lengthened notice of this, the sixth edition, is called for or expected. The work now runs to 1,223 pages of letterpress, or some 30 pages more than the fifth edition contained. It is evident, therefore, that the process of hypertrophy, to which we drew attention in our review of the fifth edition (See Volume LXXVIII., Third Series, No. 154, October 1, 1884, page 347), has not yet ceased or been succeeded by a process of atrophy or senile degenerescence.

The changes in the present edition are more numerous than those in the last. Examples will be found in the chapter on "Skin Diseases" and in that on "Sclerosis of the Nerve Centres." Some very valuable additions have also been made to the contents of the Treatise, which now includes an account of Pasteur's preventive treatment of hydrophobia (pages 250–252). Dr. Bristowe expresses a favourable opinion of this treatment, for he says:—"The exceedingly small percentage of deaths from hydrophobia occurring among his patients, and the fact that all of them in the course of

treatment have been harmlessly inoculated with virus capable of giving rabies without fail to dogs, seem to bear unanswerable testimony to the importance of his discoveries, and the protective efficacy of his treatment."

Among other additions to the work are descriptions of the curious vegetable parasitic affections known as Actinomycosis and Mycetoma, or the "Fungus Disease of India" (also called "Madura Foot.") The first case of actinomycosis observed in man seems to have been one recorded by Langenbeck in 1845, but it was not until 1878 that Israel discovered a disease in man similar to one observed in cattle, upon which Bollinger had published most valuable researches a year previously. In 1879 Ponfick insisted on the identity of the disease as observed in man and in other animals, and in 1885 Drs. Acland and Sharkey recorded the earliest case observed in England. With mycetoma the name of Dr. H. Vandyke Carter will always be honourably associated, and the mould which produces the disease is now called *Chionyphe Carteri*. The mycelium, penetrating the skin and subcutaneous tissue, sets up suppuration and ulceration.

In the eighth Chapter, on "Diseases of the Nervous System," articles have been added on multiple neuritis, congenital tabes dorsalis, and Thomsen's disease—the "congenital myotonia" of Strümpell. Brief discussions on recurrent palpitation and Raynaud's disease (*Asphyxie Locale*) have been introduced into the fourth chapter on Diseases of the Vascular Organs.

The foregoing analysis is sufficient to show that Dr. Bristowe's Practice of Medicine has been kept well abreast of medical progress, and more than ever deserves its high reputation as an English text-book.

THE EDITOR.

RECENT WORKS ON ANATOMY.

1. *Anatomy, Descriptive and Topographical, in 625 Illustrations.* By CARL HEITZMANN, M.D. English Edition, by LOUIS HEITZMANN, M.D. London: Dulau & Co. 1887. Pp. 508.

HEITZMANN'S Anatomical Atlas has been so long and favourably known in this country that it is with much pleasure we receive the present English edition, which places in our hands the work which for the past sixteen years has held the principal place amongst works of its kind in Germany and Austria. The work of the

translator was not that only of a translator, as we find many points of difference from the German editions which bring it into unison with the standard works of this country. As presented to the English public in the translation, Dr. Heitzmann's treatise gives a complete series of dissections and sections of the human body, which should render it of service not alone to the student, but to the physician or surgeon who may wish to acquaint himself with the topography of any portion of the body in which he may be particularly interested. The printing of the plates (woodcuts) is to be highly commended, while the letterpress is also very good.

The work is divided into two parts, containing 238 and 270 pages respectively, and these parts are again sub-divided into six sections.

Section I. deals with Bones, Articulations, and Ligaments.

The woodcuts here, as throughout the work, have the names of the different parts applied locally when possible, and in addition there is a very complete explanatory text appended to each plate. The student should, however, observe that the names applied to certain parts are not those usually employed in this country. Thus the olivary process of the sphenoid is referred to as the tuberculum ephippii, the malar process of the superior maxillary bone as the zygomatic process, the lateral sinus as the transverse sinus, &c.

The fœtal fontanelles are very clearly represented in two plates on page 18, while the ligaments of the spine, especially those connecting it with the skull, are well illustrated in a series of plates.

Section II. treats of Muscles and Fasciæ.

The plates in this section are as numerous and illustrative as could possibly be wished for, and if we would specially select any for mention it would be plate 226, representing the short muscles of the back; and the horizontal and sagittal sections through the joints and different portions of the limbs, both extremities.

Section III. is on the Organs of Sense.

The first four plates in this section are devoted to important and instructive representations of the skin cleavings, hair growth, and cutaneous nerve supply of the body, the remainder being devoted to plates on the nose, eye, and ear, which are gone into very fully—the only need one feels being a representation of the minute structure of the retina.

Part II., Section IV., treats of Visceral Topography.

This portion of the author's subject is dealt with in a series of

dissections, and sections representing the different portions of the alimentary tract, liver, pancreas, &c. We would draw attention to plate 367 as very clearly representing the peritoneal aspect of the abdominal wall in the inguinal region; also to plates 368 and 369, which represent the vertical tracing of the peritoneum in a manner different from that usually accepted as representing the arrangement in the adult—viz., that the great omentum is formed only by the great sac of peritoneum, and is composed of but two layers. The remainder of this section deals very fully with the larynx, thoracic spaces and viscera, and the male and female genito-urinary systems.

Section V. is on the Nervous System.

The dissections and sections of the brain are to be specially recommended, while the nervous plexuses are also very fully illustrated—this section being fully on a par with any of the works specially dedicated to the subject.

Section VI. deals with the Vascular system.

The anomalies of the aorta are very fully explained in a series of diagrams. If we were to suggest an improvement it would be that colouring the vessels would render them much clearer.

2. *The Dissector's Guide: being a Manual for the Use of Students.* By D. J. Cunningham, M.D. Edin. & Dubl.; F.R.C.S.I.; F.R.S.E.; Professor of Anatomy and Chirurgery in the University of Dublin. Head and Neck. Edinburgh: Maclachlan & Stewart. 1887. Pp. 482.

The two preceding portions of this work have received from the public such an amount of support as to prove that it fills a position of much utility to the practical anatomist, but we are of opinion that it has been useful chiefly to the senior student and demonstrator. For the latter this volume seems to have been especially written, inasmuch as the dissections described in relation to the deeper portions of the neck are not such as will be usually performed by the student. The scope of the work has greatly changed from that undertaken in Part I., and considering the book as it now stands, we certainly must agree with the author that he was justified in deferring the dissection of the nervous system to a future volume, the appearance of which, we hope, will not be so long delayed as that of Vol. II. has been. Considering the recent advances of medicine and surgery in relation to the nervous system, the text-books at present in use give very inadequate information

of that nature which, to judge from what we have already culled from his work, would be given by the author.

If any objection is to be made to the present volume it is that the text has been inefficiently corrected for press. There are many passages throughout the work which contain slips which should have been brought under the notice of the author for insertion in the "Errata" slip.

The dissection of the nose and also that of the ganglia of the fifth pair of nerves are to be especially recommended for the clear and lucid style in which they are explained. The descriptions of the capsule of Tenon and of the ocular fascia are also very good.

The plates are well selected throughout, and fully illustrate the more difficult dissections.

The work may be confidently recommended as containing sound anatomy and describing the dissections of a very difficult portion of anatomy in a manner at once clear and concise.

The Therapeutics of Circulatory Derangements. By Prof. M. J. Oertel, M.D., of Munich [Vol. VII. of von Ziemssen's Handbook of General Therapeutics]. Translated by E. J. Edwards, M.D. London: Smith, Elder & Co. 1887. Pp. 276.

The cases with which the method of treatment bearing the name of the author of this volume is generally associated, differ very often from the pathological conditions of those disorders to combat the effects of which Oertel originally advocated his system. Many persons would seem to be under the impression that Oertel's treatment is some absurd new-fangled mode of treating disease of the heart by making the subjects thereof climb mountains. A hasty misconception of this kind has probably had something to do with a want of recognition in this country of the nature of the work done by the distinguished Munich professor. For his method—which is the outcome of many years' investigation and observation—has not yet had amongst us, as far as we know, any extended trial in cases similar to those in which he appears to have proved, both by scientifically-conducted experiments and by clinical experience, that it is of use. The publication of the present excellent translation, by Dr. E. J. Edwards, of the original work, as one of the volumes of von Ziemssen's Handbook of General Therapeutics—of which valuable series this constitutes the concluding volume—will, we should hope, draw the attention of English and

Irish practitioners to Professor Oertel's views, and ensure for them the recognition and study they deserve. That they have, to a great extent, as we have said, been ignored up to the present, may also be due in some measure to the title of the book. It is by no means a work on cardiac therapeutics in which a reader would find a detailed course of treatment for, say a particular form of valvular disease or arterial lesion. "The main subject is chronic venous stasis and its consequences, by whatever cause induced, but especially in connection with obesity and fatty heart." Indeed, as a matter of fact, out of the thirty cases adduced as forming the material out of which the design and method of Oertel's treatment arose, in two only was there valvular disease. In all the cases there was, however, from one fault or another in the circulation, a disturbance of the hydrostatic balance. In other words, the inflow of blood into the heart did not correspond, as it should do, with the outflow. Thus arise the well-known consequences of such derangements. These are of a purely physical nature, and although the balance may be temporarily adjusted by secondary compensations for longer or shorter periods, dependent chiefly upon the patient's condition of health, the reconstruction of the previous circulatory conditions is, according to Oertel, the only possible direct treatment of the disease as a circulatory disorder *per se*. The therapeutic problem, then, he holds, resolves itself into two main conditions. The immediate one (*Indicatio causalis*) lies in obtaining a diminution of the fluids of the body. The second one (*I. prophylactica*) which follows from the first, is the preservation of the status obtained, or rather the regulation of the amount of fluid in the body, in order to prevent its re-accumulation and the renewal of the circulatory disorder. As to the different modes of reducing the fluids accumulated in the body, the author shows, by experimental investigations which are given in full, that those means which act in a physical manner—*e.g.*, by the influence of heat upon the body, or else by increased muscular activity—are preferable to pharmacological measures. He strongly insists, however, that dietetics must be brought into immediate connection with the physical procedures adopted. "With increased excretion of water we shall only obtain," he says, "a diminution of the blood accumulated in the body when the amount imbibed is not merely kept at the previous level, but diminished, and the dehydration of the body will be quicker and more energetic the smaller the amount of water supplied. The patient's diet must, therefore, undergo a thorough

re-arrangement. Whilst we should promote the addition of albumen to the body, in order both to cover the continual loss by albuminuria, and to facilitate the speedy combustion of the *stored-up fat* by an appropriate diet rich in proteids, we must reduce to a minimum not only the patient's drink, but even the fluid portion of the solid food."

In the relation of the water excretion to the water supply, and to the fluids of the body generally, lies the possibility of compensating the deranged balance in the circulatory apparatus, and the preservation of the new condition depends on the regulation of the amount of fluid supplied and excreted.

Having demonstrated by a series of experiments, the results of which are graphically displayed, the alterations in the vascular apparatus that result from mountain-climbing, Dr. Oertel proceeds to discuss the most important part of his problem—viz., the mechanical influence of such exercise upon the heart itself. He shows that almost without exception, in cases of circulatory disorder with derangement of the hydrostatic balance, we find a weak, badly-nourished atrophied heart, partly infiltrated by fat, partly degenerated, and only imperfectly able to perform its work. In such cases, moreover, the earlier compensations, which have in some degree mitigated the circulatory derangements, have gradually failed. "How," he asks, "will such a heart be affected by an unwonted amount of work?"

He points out (1) that in dealing with the heart we are dealing with a muscle, the relations of which, as to nutrition and growth, are the same as those of other muscles. And (2) that the nutritive processes and functional capacity of the heart may be influenced by exciting and increasing its activity, just as other muscles are gymnastically strengthened and enlarged by exercise. Whether a weak heart can be made strong, and a lost compensation be restored, by gradually exciting powerful contractions—*i.e.*, by increasing cardiac action through gymnastic means, is fully and fairly treated by the author as an experimental question, and is solved by him in an experimental manner, the results being shown in the minute details that are given of the practical application of his method.

There are no means whatever, according to Oertel, of procuring such persistently powerful cardiac contractions as those obtained by mountain-climbing, systematically conducted according to the manner, and with the precautions that the author enjoins—viz.,

with frequent interruptions and long inspirations. It is a true gymnastic exercise, slowly and methodically increasing the heart's action, and at the same time inducing an increased water excretion from the skin and lungs by powerful and persistent excitation of the sweat nerves and forced respiration. By such means, therefore, associated, of course, with appropriate nourishment, we are enabled to effect (1) a reduction in the quantity of fluid in the body; (2) an oxidation of the accumulated fat, a fat reduction; (3) a balance between the arterial and venous systems; (4) the strengthening of the heart-muscle, and (5) the cure of the secondary renal affections, as far as is possible. No other plan of treatment at present known can apparently offer promises of better results. It remains now for the profession to give it a careful trial, and not to allow it to be discredited by reports of failures, due, probably, more to carelessness in carrying out the method than to any inherent defect in it.

A considerable portion of the book is occupied with the results of the author's investigations on fat destruction and on fat reduction. The treatment of obesity by the Harvey-Banting and by Ebstein's method is discussed at length. According to the author, Ebstein allows far too little albumen—in fact, hardly the amount required for the maintenance of normal health. The Banting method is distinguished by the predominance of nitrogenous food; and while some patients have to suspend this mode of treatment in consequence of becoming weak, low, and nervous, in other cases the unrestricted flesh diet has caused dyspepsia, with gastric and intestinal catarrh. Both methods disregard the supply of fluids, which Oertel holds is of the greatest importance in the treatment, whether the obesity be accompanied by circulatory derangements or not. Should the former be the case, (1) the quantity of fluid in the body must be reduced, and the heart's work must be lessened, before commencing any method of fat reduction, or at least, hand-in-hand with such reduction, and (2) the heart-muscle itself must be strengthened, and previous compensatory hypertrophies must be re-established. The methods of fulfilling these indications are fully given in the text. They consist, briefly, (1) in lessening the supply of water to the system, and at the same time increasing its excretion, so that by unloading the venous apparatus the heart may be enabled to drive on the blood; and (2) strengthening the heart-muscle by exciting powerful contractions of it, which are most effective when caused by mountain-climbing. The severe exertion which this method entails, and the temperature of the surrounding air,

cause a deep excitation of the sweat-nerves, and a watery loss by skin and lungs up to two kilogrammes and more. Hence this method will also assist in the first indication—the removal of water from the body. If mountain-climbing cannot be resorted to, other methods of strengthening the heart-muscle, and of exciting the cutaneous excretion must be substituted.

It is right to mention that quite recently Professor Kisch, of Prague, has expressed the opinion that Oertel's anti-fat treatment is contra-indicated in the plethoric form of obesity. Several of such cases under Professor Kisch's observation, who were subjected to this method of treatment, and who, up till then, had not shown any symptoms of gout, were, immediately consecutive to some weeks' dehydrating treatment, seized by a severe attack of gout. Another consequence of the dehydrating treatment observed in the case of strong, sanguineous, corpulent persons is stated to have been a considerable loss of bodily strength. Such cases, and others in which the occurrence of even more serious symptoms is mentioned by Dr. Kisch, do not detract from the value of Oertel's method when strictly carried out. They rather enhance the importance of his cautionary remarks, that "to attempt the correction of circulatory irregularities, the reduction of fat, and the strengthening of the heart-muscle by the methods above given, apart from professional supervision, is not to be recommended. Repeated medical investigation and control of the results obtained, and estimates of the proper fluid-supply and excretion, and of the gradual increase of the heights to be ascended, are indispensable to the result, and must not be complacently disregarded by the patient."

One important chapter in the work is occupied with the results of investigations on albuminuria after increased muscular activity, and will well repay perusal. The whole work, indeed, is most instructive and suggestive. Notwithstanding the large number of tables and diagrams it contains, its style is easy, and it is by no means an irksome book to read—a circumstance due in no small degree to Dr. Edwards' excellent and fluent translation. Extended tables of the chemical composition of nutritive and other articles of food in the cooked and uncooked condition are appended to the volume.

Post-Mortem Handbook; or, How to Conduct Post-mortem Examinations for Clinical and Medico-legal Purposes. By THOMAS HARRIS, M.D. Lond., M.R.C.S.; Pathological Registrar to the Manchester Royal Infirmary; Assistant Lecturer and Demonstrator of Pathology in the Owens College; and Honorary Physician to the Manchester Hospital for Consumption and Diseases of the Throat. London: Smith, Elder & Co. 1887. Pp. 78.

THIS small work fills a place of great importance to the student and practitioner, as it very frequently occurs that, when called on to perform a *post-mortem* examination, the practitioner has had to depend entirely on his recollection of what he had perhaps only seen performed on a few occasions when a student. He finds himself called on to examine a body for medico-legal purposes with only a hazy idea as to how he should proceed with his task, knowing that any discrepancies on his part will be taken full advantage of by counsel, whose business it may be to throw doubt on the accuracy of his statements. In relation to such a case the author's remarks respecting the superficial examination of the body and its surroundings are very apt, as are also those respecting the method of examination of the intestinal canal and the order in which the different abdominal viscera should be inspected. By drawing the operator's attention to the fact that he should perform his work standing throughout on one side of the body, that great cause of subsequent doubt as to whether it was at the right or left side certain conditions were observed is effectually guarded against.

The section dealing with the examination of the brain might be advantageously perused by pathologists, as it is very frequently to be deplored that brain lesions are rendered entirely useless for purposes of demonstration by the unskilful manner in which that organ has been destroyed in its dissection. The method recommended allows the different portions to be readily replaced in their normal positions, and thus lesions may be traced successively from the cortex to the medulla without their relative positions being disturbed.

The work is throughout thoroughly practical, and shows the author to be perfectly conversant with his subject.

PART III.

HALF-YEARLY REPORTS.

REPORT ON

MATERIA MEDICA AND THERAPEUTICS.[a]

By Walter G. Smith, M.D.; Physician to Sir Patrick Dun's Hospital; King's Professor of Materia Medica, School of Physic in Ireland, Trinity College, Dublin.

Art. 5. Absorption through the Skin.
„ 8. Aromatic Compounds.
„ 2. Cocaïn.
„ 3. Drumin.
„ 4. Hyoscin.
„ 7. Iodol.
„ 6. Lanolin.
„ 1. Pilocarpin.

1. *Synthesis of Pilocarpin.*—The providing of remedies of definite strength, and the substitution of crude drugs of their active principles, are admitted by all to be desirable steps. Hence the artificial production of the vegetable alkaloids is of great practical interest, and we cordially welcome every advance of chemistry in this direction. The synthesis of true conia is now an accomplished fact, and within the last few months MM. Hardy and Calmels announce the synthesis of a second alkaloid—viz., pilocarpin. It is obtained from a derivative of pyridin, and its physiological action is stated to be identical with that of the natural base (*Compt. Rend.* CII.). The labours of the chemist and the physiologist in laying the foundation of a knowledge of the connection between chemical constitution and physiological action not only tend to greater precision of thought in therapeutics, but also suggest new lines of inquiry by which we shall doubtless ere long greatly profit.

[a] The author of this Report, desirous that no contribution to the subjects of Materia Medica and Therapeutics should remain unnoticed, will be glad to receive any publications which treat of them. If sent to the correspondents of the Journal they will be forwarded.

Here we may advert to an interesting paper, by Filehne, on "The Local Anæsthetic Action of Benzoyl-derivatives." He remarks (*Berl. klin. Woch.* 7, 1887) that for awhile cocaïn seemed to stand alone in its local anæsthetic action. Then a similar property was found to belong to the *a–resin* from Piper methysticum (Kava). All the ordinary alkaloids have been tested in reference to this point by Bergmeister and E. Ludwig with negative results. Searching after a substitute, Filehne directed his attention to the chemical constitution of the cocaïn molecule. Just as atropin can be split up into, and re-constituted from, tropic acid and tropin, so cocaïn into benzoic acid and ecgonin. Atropin acts slowly as a local narcotic, and sometimes causes slight irritation on the surface of the eye, from which objection homatropin is free. Homatropin is constituted of mandelic acid and tropin, and mandelic acid stands midway chemically between tropic acid and benzoic acid.

$C_6H_5COOH.$ $C_6H_5CH<^{COOH}_{OH}.$ $C_6H_5CH<^{COOH}_{CH_2OH}.$

Benzoic Acid. Mandelic Acid. Tropic Acid.

Experiment shows that atropin exerts a slight but undoubted paralysing action upon the peripheral ends of sensory nerves, and homatropin a much more pronounced action. Ecgonin is inactive, and therefore the anæsthetic effect of cocaïn depends upon the coupling of ecgonin with benzoic acid. Reasoning from this, Filehne was led to examine the action of *benzoyl-tropin*, and finds it to be a powerful local anæsthetic, acting upon the pupil similarly to all the tropins. He likewise prepared and examined the action of a number of benzoyl-derivatives of other alkaloids, and ascertained that they all possessed a well-marked cocaïn-like action. Practically, however, these substances are all too irritant for application to the eye.

But the chemical nature of cocaïn is not definitely settled; for, according to Stockman, benzoyl-ecgonin is devoid of anæsthetic properties, its effects being rather those of a tetanising poison. Hence it cannot be at present concluded that the benzoic group is the one essential to local anæsthetic action.

2. *Cocaïn.*—Cocaïn maintains its position in therapeutics, and the indications for its uses, which have almost indefinitely multiplied, are now generally understood.

From his experiments on dogs, Mosso draws the conclusion that

cocaïn is the best known nervous stimulant, and he anticipates that it will be found of signal use in man wherever we desire to counteract a condition of deep depression, and to produce an energetic stimulation of the nervous system. Cocaïn has an extraordinary and characteristic influence in raising the animal temperature, sometimes by as much as 4° C. within half an hour. It is antagonistic to chloral, chloroform, and ether; and in case of dangerous toxic symptoms from cocaïn, Mosso recommends the administration of chloroform or ether in the first instance, in order to prevent the respiratory tetanus, which is the most frequent cause of death (*Arch. f. exper. Path. u. Pharmak.* xxiii.). It is doubtful if the dangerous qualities of cocaïn are as widely acknowledged as they should be. We may well recall the sad case which ended in the sacrifice of a patient's life as well as that of the operator, who committed suicide in remorse for his error.

Dr. R. Wood records, in the *Australasian Medical Gazette*, the case of a patient in whom alarming symptoms of poisoning followed a large dose of cocaïn. A man suffering from dental neuralgia received an injection of three drops of a ten per cent. solution of cocaïn. Next day, the pain continuing, the ten per cent. solution was repeated. This not producing the desired effect, he procured a solution of twenty per cent., of which four drops were injected. Five minutes afterwards he became restless, nauseated, and felt tinglings in limbs and body. To this succeeded cramps, and rigidity of fingers, arms, and legs, with a tendency to opisthotonos. The pulse was feeble and rapid, the face livid, the respirations short and convulsive, and the extremities cold. Under the influence of stimulants, sinapisms, and inhalation of chloroform, improvement gradually set in, was well marked after two hours assiduous care, and within five hours all the symptoms had passed away (*Nouv. Rem.*) A number of additional cases of acute poisoning, resulting from the local application of cocaïn, have been put on record; and besides all this, the public have acquired a new vice—the cocaïn habit—which threatens to confer upon medical literature the barbarous term, cocaïnismus. The great instability of cocaïn is now well known, simple contact of the *free* alkaloid with water being sufficient to decompose it (Paul and Flückiger). It is well, therefore, that every practitioner should know how to easily recognise the purity of the cocaïn he handles. The hydrochlorate, which is the salt most used, should be absolutely neutral, volatilise completely, form a clear and colourless solution in water, give a colourless

solution with strong sulphuric acid, and should not reduce permanganate of potassium immediately (Beckurts).

3. *Drumin.*—Towards the close of last year a discovery (!) was reported of an alkaloid derived from an Australian plant, *Euphorbia Drummondii.* It was named "Drumine" by Dr. J. Reid, of Melbourne, and was described as possessing properties analogous to those of cocaïn. But observers in England and Scotland have failed to confirm Dr. Reid's statements. Chemical examination of the solution supplied by Dr. Reid gave no indication of the presence of an alkaloid; and, in short, according to Mr. Tanner, the substance in question consists almost entirely of *calcium oxalate!* (*Pharm. Journ.*, December 2, 1886, and June 18, 1887; *Nouv. Rem.*, Mars, 1887.

4. *Hyoscin.*—Dr. Mitchell Bruce advocates hyoscin as a cerebral sedative, and gives cases to show that it very rapidly and completely controls those conditions of cerebral excitement variously known as delirium, mania, and insomnia with restlessness. Hyoscin is an isomer of hyoscyamin, with which it is associated in henbane. So-called "amorphous hyoscyamin" consists in great part of hyoscin—a syrupy body—with traces of crystalline hyoscyamin. Hyoscin does not cause unpleasant dryness of the throat, and is not an anhidrotic. It is best administered in doses of $\frac{1}{200}$ gr. to commence with, according to this formula:—

Hyoscinæ Hydriodatis (Merck) gr. i.
Aquæ destillatæ - - ♏ 200.
M.

In America, where it has been largely used upon the advocacy of Professor Wood, of Philadelphia, the average working dose has been $\frac{1}{100}$ gr.

Another formula is Dr. Webber's:—

Hyoscinæ Hydrobromatis - gr. i.
Alcohol - - - ʒ iss.
Aquæ, ad. - - - ʒ xx. M.
Dose, 20 ♏. by mouth.

(*Practitioner*, 1886. XXXVII).

Mr. J. Tweedy, in giving his opinion of the value of hyoscin hydrobromate in ophthalmic therapeutics (*Lancet*, Dec., 1886), says it will be chiefly of use in cases of iritis, and where it is desirable to produce as much dilatation of the pupil as possible,

and for as long a time as possible. The fact that it does not seem to cause the unpleasant taste and feeling in the throat, which often follows the use of atropin, is also in its favour. He employs a solution of 1 in 200.

5. *Absorption through the skin.*—Dr. Ritter, of Erlangen, in conjunction with Dr. Pfeiffer, has attacked this oft-disputed question, which has acquired renewed interest through the claims put forward by Liebreich as regards lanolin. The general conclusion he has arrived at agrees with that held by those who teach that the normal human epidermis does not absorb ointments and fluids, even when finely divided, but that contrariwise, all substances which irritate the skin, and after a time tend to disturb its continuity, may finally be absorbed through the skin thus altered. His earlier experiments with ointments prepared with lard and KI, sodium salicylate, and salicylic acid, proved that, as a rule, all necessary precautions taken, none of these drugs could be detected in the urine, except when irritation of the skin was caused, as by salicylic acid. Similar experiments with ointments prepared on a lanolin basis gave corresponding results, and Dr. Ritter is unable to confirm the favourable influence upon absorption claimed by Liebreich for lanolin. Careful experiments, with a spray apparatus directed upon the arm, enclosed in a glass cylinder, likewise gave negative results with KI and sodium salicylate (nine experiments). Salicylic acid spray was absorbed because it injured the surface of the skin (*Berl. klin. Woch.*, 47. 1886).

6. *Lanolin.*—According to Dr. Toporoff's researches, lanolin would appear to be a less advantageous basis for anodyne ointments than ordinary lard, the difference in favour of the latter being especially marked in the case of chloroform ointment. The effects of the ointments seemed also to vary considerably with the region of the body experimented upon (*Lancet*, Nov. 13, 1886).

P. Guttmann, as the result of a careful investigation, concludes that lanolin possesses no advantage as an ointment-basis over ordinary lard in favouring the absorption through the skin of KI and salicylic acid. Similar results would probably be obtained with other drugs (*Zeitsch. f. klin. Med.*, 1887). *Per contra*, Wulfsberg, of Christiania, finds pure lanolin to be a valuable remedy that he could now ill spare in his practice. It is no panacea, nor can it entirely replace the other fats, but in many cases it certainly brings

about a quicker and more decided cure than the usual remedies (*Brit. Med. Jour.*, May 21, 1887).

7. *Iodol.*—Dr. R. N. Wolfenden calls attention to the valuable qualities of this, as yet, little-known drug. Compared with iodoform, it appears to be of equal value, and it possesses the undoubted advantage of being free from nauseous smell, although not quite inodorous. In nasal, laryngeal, and pharyngeal affections it is of the utmost value, and the pure powder is, perhaps, the most generally useful application, but an ethereal solution may also be used. In laryngeal phthisis iodol is of signal service (*Practitioner*, 1887).

8. *Aromatic Compounds.*—In organic chemistry a number of new "aromatic compounds" have been investigated, and the groups of antipyretics and antizymotics continue to receive a large share of notice. One of the most important and interesting achievements, from a purely chemical point of view, is the artificial formation of grape-sugar by Dr. Fischer and Tafel, of Wurzburg; but a compound of more interest at present to the practitioner is *Saccharin.* It is a nitrogenous body, having no affinities to the carbohydrates, or to the sugar proper, save in the particular quality of sweetness.[a] One part in 70,000 parts of water (neutralised) has a distinctly sweet taste = one part of cane or beet sugar in 250 of water. It is a white crystalline powder of acid reaction, soluble in 500 parts of distilled water, and a little more soluble in alcohol and ether. A four per cent. solution by weight is a saturated solution in rectified spirit (spiritus saccharin), and is a convenient solution for dispensing (Martindale).

Its salts also possess a strongly saccharin taste, but on adding saccharin to a strong solution of bicarbonate of sodium, effervescence occurs, and a distinctly aromatic flavour, mingled with the sweetness is developed. Aducco and Mosso find it innocuous to frogs and dogs; similarly in man, according to Stutzer and Dreschfeld. It seems to undergo no change in the body, and can be discovered unaltered in the wine. Its use is indicated in diabetes and obesity, and, according to Levinstein, diabetic patients in Berlin have been treated with it for several months without experiencing any ill effects. It is slightly antiseptic (Adami, *Med. Chronicle*, IV.).

[a] Péligot used the term "Saccharin" to designate a dextro-gyrate sugar obtained by heating glucose with lime.

As illustrative of the pharmaceutical use of saccharin in disguising the taste of medicines, Mr. Martindale gives the following experiments:—

Salicin, twenty grains in one ounce of water, is effectually covered by thirty minims of the above-mentioned spiritus saccharin; thirty grains of salicylate of sodium are disguised by the same quantity; and one part of the spirit to seven parts respectively of liquor strychninæ and tincture of nux vomica makes these very palatable. With quinine it is not so successful—one part of the spirit to three parts of tincture of quinine being required to mask its bitterness. One part of spiritus saccharin to three parts of tincture of perchloride of iron disguises its taste, and the extreme nauseousness of liquid extract of cascara is covered by an equal volume of the spirit (*Brit. Med. Journ.*, Oct. 1, 1887).

TEMPERATURE SENSE.

Dr. Goldschneider communicated to the Berlin Physiological Society the results of his experiments on the reaction-time of the perception of temperature. It has been known for a long time that cold is more quickly perceived than heat. As a starting-point, the speaker had first carried out some direct measurements. He sought out portions of the surface of the body which were equally sensitive to heat and cold; these parts were then stimulated as far as possible with equal intensity, and the results were as follows, taken as a mean of about two thousand separate measurements:—The reaction-time for cold as a stimulus is for the face 13·5, for the arm 18, for the abdomen 22, and for the knee 25 hundredths of a second. When an equally strong heat stimulus was applied, the numbers obtained were 19, 27, 62, and 79 hundredths of a second. The ratio of the reaction-times was found to be about the same when the stimuli were applied to such a nerve as the trigeminal which goes straight to the brain and to a spinal nerve. The experiments on thermal stimulation were made by bringing a metallic button in contact with the skin and recording electrically the moment of contact; the resulting sensation was indicated by a Beiss key. The degree of heat and cold employed as a stimulus was selected so as to differ by equal amounts from the temperature of the skin. From the results of the experiments, Dr. Goldschneider deduced some theoretical conclusions as to the nature of our sensations of heat and cold.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Robert M'Donnell, M.D., F.R.S.
General Secretary—W. Thomson, M.D.

PATHOLOGICAL SECTION.

President—C. B. Ball, M.D.
Secretary—J. B. Story, F.R.C.S.I.

Friday, November 4, 1887.

The President in the Chair.

Opening Address.

The President delivered an address on Tetanus. [It will be found at page 457.]

Hour-glass Contraction of the Stomach.

Dr. Finny exhibited a specimen of hour-glass contraction of the stomach, occurring in an organ which was the seat of several ulcers. The following were the clinical history and the morbid appearances:—

M. M'G., a domestic servant, aged twenty-nine, was admitted into Sir Patrick Dun's Hospital on May 13, 1887, in a state of collapse and in great pain, which was referred to the lower part of the abdomen. After reaction had set in, under appropriate treatment, she vomited once, and the rejected matter consisted of tea and milk, but contained no blood. The urine was drawn off and found to be free from albumen and indican. All her symptoms were those of acute peritonitis from perforation. Death ensued eight hours after admission.

Her history was to the effect that she had enjoyed good health up to three weeks ago, but beyond some slight dyspepsia, she was able to continue her duties as a domestic servant up to the day previous to her admission.

The *post-mortem* examination, made thirty-six hours after death, displayed acute general peritonitis, with flaky lymph and sero-purulent fluid, while the stomach was found to be the seat of recent inflammation, as well as of old and firm adhesions to the liver, spleen, pancreas, and diaphragm.

At first sight there seemed to be two stomachs, or one with a very dilated duodenum; and this appearance was due to a constriction transverse of the stomach, nearer one-third to the pylorus than to the cardia. On the anterior surface of the cardiac half of the organ, not far from the greater curvature, the origin of the general peritonitis was seen in the existence of a circular, sharply-defined, perforating ulcer, the size of a threepenny piece.

On laying open the stomach it was found to have been the seat of several ulcers—(1), that referred to on the anterior wall, which on the mucous aspect measured a sixpence, and had the punched-out characteristic appearance; (2), a firmly-cicatrised, circular ulcer on the posterior wall, near the lesser curvature—which was not in a state of activity—whose floor consisted of the pancreas, to which it was intimately adherent; (3), a small ulcer in a stage of activity lower down in the posterior wall; and (4), an oval ulcer extending three-quarters of an inch from the lesser curvature, transversely to the long axis of the stomach, and in an active stage of destruction of the mucous, and part of the muscular, coat. This ulcer ran into the circular constriction which divided the stomach into two unequal bags.

The constriction, which was half an inch wide, narrowed the organ so as to admit but three fingers, and had all the appearance, from external examination, of the pylorus. The lesser curvature was not dimpled or marked much, but towards it the greater curvature was drawn at this spot, so as to make two bags of the stomach. Its outside was thickened by old lymph, while on the inside the rugæ of the stomach seemed to run into it, and at its cardiac side was the ulcer referred to as No. 4.

Dr. Finny discussed the pathological origin of the constriction, and remarked on its want of agreement with the features depended upon by Dr. W. R. Williams as distinctive of congenital hour-glass contraction. He alluded to the rarity of cases of this deformity of the stomach—the greater number having been discovered in the dissecting-rooms. He also laid stress upon the following, as exemplified by his specimen—(1), the comparative greater danger of an ulcer situated in the anterior wall; (2), the co-existence of three ulcers in a state of activity; (3), the possibility of relapse; (4), the encouragement to treatment to be derived from the fact that so many ulcers—about half of those recorded—have been discovered in a state of cicatrisation.

Dr. MacSwiney asked was there any history of the woman having taken food immediately, or soon before, she was attacked with the violent

pain and collapse. Very frequently in such cases the rupture occurred in consequence of the stomach being distended with food. He thought Dr. Finny had established that the contraction in this case was pathological.

Dr. Finny, in reply, said there was no history of food having been taken immediately before the occurrence of the great pain. The woman had never complained of any pain in the stomach, or other marked gastric symptom, until three weeks before her admission. She was doing her work as a servant when the sudden occurrence of pain obliged her to seek relief. The case was an example of ulcers painlessly eating their way through the walls of the stomach, and ending in perforation at short notice. The woman had vomited before she came into the hospital, and in consequence of the small size of the opening caused by the fatal ulcer nothing was extruded through it.

Case of Epispadius.

Mr. Lentaigne exhibited a patient who was the subject of Epispadias.

Case of Phlegmasia Alba Dolens.

Professor Bennett submitted a specimen of phlegmasia alba dolens. The patient, a girl of fifteen years, was admitted on the 30th September, 1886, into Sir Patrick Dun's Hospital, and remained there until the 27th of June, 1887, when she died. When admitted she had phlegmasia alba dolens in the whole of the left leg, which was distended with white œdema. She was extremely emaciated and anæmic, and her œdemic leg was in strong contrast with the rest of her body. There was great difficulty in assigning any cause for the ailment, pregnancy and parturition being entirely out of the question. She suffered from great gastro-intestinal irritation, which was complicated with vomiting and diarrhœa, accompanied with pain.

So prominent were these symptoms that at first it was thought that the case might be one of typhoid fever, which was even approaching the stage of recovery. The course of the case put that diagnosis out of the question. There were always great abdominal pain and irritation, which could not be controlled by any remedy save the most careful attention to diet, milk being the only thing that the patient could bear. Three weeks after her admission œdema of the right limb commenced, and the condition of the right leg soon became the same as that of the other. Diagnosis then became easy, it being apparent that there was obstruction of the femoral and iliac veins, and that it had extended up the involved vein on the right side. Clinically the case was an extremely easy one to read, and before the swelling of the right limb occurred it was prognosticated that it would occur. The femoral vein could be felt hard and distended on the left side, and when the œdema on the right side occurred the vein on

the opposite side was as firm and hard under the finger as a cord. After this, without any material change in the general system, collateral circulation of the venous system of the abdomen began to establish itself, with a reversal of the blood currents; these being directed towards the thorax, instead of the groin. There was then some slight clearing up of œdema, and just a prospect of recovery. Still the gastro-intestinal irritation remained—and then suddenly there came an accession of symptoms, indicating uræmic poisoning. Then there was rapidly developed extreme œdema of the whole body, which pitted rapidly, and, finally, with uræmic phenomena, death took place. He would now show what they had guessed at as the cause of the disease, but could not distinguish with certainty. There were two great cylindrical patches, close to each other, in the lower portion of the small intestine, of tubercular ulceration of the intestine, with a great series of enlarged glands infiltrated with tubercular matter occupying the mesentery. There was no tuberculosis of the lung; but the gastro-intestinal phenomena appeared to be produced entirely by the condition of the small intestine. The femoral veins and tributaries were occluded. The vena cava inferior was a complete fibrous cord, shrunk and flattened out. When it was traced up between the kidneys there was found a great, firm thrombus, which had already undergone calcification. Then came the most interesting point in the case. On the surface of that calcified thrombus, and projecting up the occluded vein, with its base between the veins of the kidneys, was a fresh, newly-formed thrombus superadded upon it. These thrombi had extended into the renal veins, which were completely occluded in their paths towards the kidneys; and the greater number of the small branches in the substance of the kidneys were also absolutely and entirely occluded. By the second deposit of coagulum on the basis of the old thrombus, and its recent extension into both the renal veins, the fatal issue was brought about, accompanied by the uræmic phenomena of suppression of the urinary secretion, and the rapid development of general anasarca, which was absent in the earlier stages of the case.

Dr. Wright asked was the condition of the heart examined.

Dr. Duffey said that Trousseau, in his lectures, discussed the cause of phlegmasia alba dolens, and referred to a case in which there was a swelling of the leg, with a subsequent development of collateral circulation and engagement of the other extremity, attended with intense gastric irritability, and from his knowledge of other cases he predicted the existence of malignant disease of the abdomen, although there was no tumour or other symptom of such disease. Here the disease, though not of a malignant nature, seemed to be very similar to it; and, as far as he understood, the mere pressure of tubercular matter did not appear to have had any effect in causing the obstruction. Trousseau also spoke of extreme anæmia as a cause of phlegmasia dolens. He (Dr. Duffey) had

a case in the City of Dublin Hospital of swelling of the leg, in which the only apparent cause of the disease was anæmia. There was a fibrogenetic condition of the blood, to which Trousseau attributed the obstruction of veins.

Professor Purser said the chief point of interest appeared to be, what effect the thrombosis of the renal veins produced on the secretion of urine. The idea generally held was that the quantity of urine secreted depended on the pressure of the blood in the renal capillaries. A remarkable case was recorded of a man in tolerably fair health, in whom an obstruction of the renal veins occurred, and in that case the secretion of urine was increased; but there was a good deal of doubt about the case; and it was important to know from Professor Bennett whether, when the uræmic symptoms commenced, and obstruction of the renal veins, as he believed, occurred, the secretion of urine increased or diminished to any marked degree. It was also important to know whether there was previous to the occurrence of those symptoms any albumen in the urine, and whether there was amyloid disease. For gastric irritation was not a common symptom in cases of mere tubercular ulceration of the intestines, particularly where it was so slight as in the present case. It was not improbable that the diarrhœa was due to degeneration of the blood vessels—amyloid degeneration—and, if so, the condition of the kidneys would not have been of such a kind as to make the change in the circulation of any value, one way or the other, as regarded the secretion of urine.

Professor Bennett, in reply, said the heart was healthy; there was nothing whatever in its condition to call for description. There was no evidence of a tumour in the abdomen at any time. The thrombosis commenced apparently in the femoral vein, and there was no evidence of its having commenced higher up. During the latter days of the girl's life she was emaciated in the extreme, and it was impossible to collect the urinary secretion or arrive at any details as to its quantity. But during the whole earlier period of her ailments, and until what he had described as the last accident occurred, there was no albumen in the urine; and when the œdema suddenly developed she became unconscious and stupid, with occasional waking up and screaming, which phenomena he attributed to uræmic poisoning. There was no trace in the liver or spleen of any amyloid degeneration. The intestines were not examined for it, but there was nothing to lead them to suspect the existence of amyloid degeneration there either. The suddenness of the final attack of œdema drew his attention to the renal conditions; and then he examined such sample of the urine as he could get and found it albuminous. He felt justified in concluding that the fresh implication of the renal veins was the immediate cause of death—a week or so of it was, it seemed, sufficient to kill.

TRANSACTIONS OF THE ULSTER MEDICAL SOCIETY.

SESSION 1887-88.

President—Robert Esler, M.D.
Hon. Secretary—John M'Caw, M.D.

Opening Meeting, Wednesday, November 9, 1887.

The President's Address.

Gentlemen,—On taking the chair as President of the Ulster Medical Society, I may be permitted to make a brief reference to the past history and present position of the Society. At no previous period has this Society been in so flourishing a condition, both numerically and financially, as at present. I would compare the practice of medicine and surgery in 1837 with that of 1887, taking as a means of comparison the lectures of Sir Thomas Watson, which were delivered in the year the Queen ascended the Throne. The contrasts are very striking. Take, for example, surgery. It need only be mentioned that chloroform was unknown, and that antiseptics had no place in the surgical treatment of fifty years ago. In midwifery practice, the substitution of hot for cold water injections has changed the method of treating hæmorrhages with much advantage to the patient. And in gynæcology, the simple record of successfully performed abdominal sections speaks of progress with trumpet tongue. During the present year, five members of this Society have performed ovariotomy with perfect success in every case. Let us look at the epidemics of fifty or sixty years ago. In Belfast there was an epidemic of cholera in 1832. The population was then 54,000; of these, nearly 3,000 were seized with cholera, of whom one in six died. Then the plague of 1836, known as the "Irish plague," visited the town. From August, 1836, till June, 1837, four thousand persons were stricken with the disease. This was followed by influenza and erysipelas. An old pressman thus describes the state of the town at the time of these visitations:—"The people and their health were in the hands of an irresponsible body of Town Commissioners, whose effeteness was only equalled by their corruption and jobbery. There were filthy streets on every side; disgusting lanes and courts, where every principle of the laws of sanitation and decency was shockingly disregarded; open sewers and abominable docks—all sufficient in ordinary times to induce a harvest of death among the population." Then came the dark days of

1847–49, when fever, smallpox, and cholera followed each other in rapid succession. Out of a population of 60,000, 13,676 cases of disease were recorded; 2,000 patients were in hospital at one time, and the death-rate was fifty a day. It will be remembered that this epidemic followed the famine of 1847; but behind this there was the neglected sanitary condition of the town, and a gross indifference to every recognised principle of sanitary law.

The people of Britain have been exempt from any very serious epidemic for many years past; and we fondly hope that, with a better knowledge of the laws of health, and a more vigilant sanitary inspection, the past will never be repeated.

Let us now, for a little, review the present position of medicine and medical men. Carlyle says that success is only to be attained and the world impressed by earnestness. If ever men were distinguished by earnestness, I think they are the 14,000 members of the greatest guild of professionally trained and educated men in the United Kingdom. Witness the work done at the annual meetings of the British Medical Association, and the earnestness with which matters concerning life and death and the general welfare of the community are discussed in the journal of the Association. Of the three learned professions, the medical occupies in some respects a distinguished place. Medical men deal with the most sacred possession—life, and they are trusted concerning the most sacred and the most secret thoughts and actions of their patients. It is gratifying to know that from the Royal palace to the humblest home the members of our profession occupy the position of being the first friend and last benefactor, the first to welcome mankind on his entrance to life, and the last to bid a long farewell at a time when earthly remedies fail to keep the flickering lamp alight. During the perilous days of childhood, in youth's prime, and manhood's decline, the physician is taken into confidence and consulted about possessions more precious—although often less regarded—than houses and lands and parchment rolls:—

> "A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal."

There are many matters in connection with the medical man's relation to the State which demand attention. The entrance to all public service should be uniform and by examination. The present humiliating practice of canvassing for dispensary appointments would then be avoided, and the best men secured. The remuneration should be sufficient to enable a man to live by his appointment, and leave him some time to work in the field of investigation, and not, as at present, a hybrid appointment, part public, part private, too much to starve by, too little to live by. The expense of any such change is always made an objection at the Treasury, but where life and the public health are at stake,

expense need not stand in the way in a country which voted an extra eleven million pounds in a single night to keep the Russian out of Afghanistan and the Turk from controlling Egyptian finance. A million a year would give an immense impetus to the work of scientific research in connection with Preventive Medicine. On the question of social position, matters have been rather improving of late years. A few of the leaders of the profession in London, Dublin, and Glasgow have received the doubtful honour of knighthood, a smaller number being esteemed worthy of a baronetcy; but so far the hereditary legislators have not considered any physician or surgeon worthy to sit in their chamber. This honour is reserved for landowners, soldiers, and lawyers. We in the provinces think that all talent is not confined to the capitals, and that it might be wise for the State to occasionally bestow distinctions on leading lawyers or doctors, so that mayors of towns might not have a monopoly in this matter. Should this idea occur to the Government, or should the Lord Lieutenant at any time wish to confer an honour on medicine in Belfast, there could be no difficulty in finding a representative man among the distinguished ex-Presidents of this Society.

There is no profession which does so much for the public and the public good, without fee or reward, as the medical profession, and there can be no doubt that this has cheapened the service and lowered medical men in the estimation of those they benefit. Yet, withal, the position of the profession is well maintained in this country; and with the brilliant results already obtained, and the yet greater discoveries of which the near future gives promise, we have no reason to be dissatisfied. Alfieri thought Italy and England the only countries worth living in—the former because there nature vindicates her rights, the latter because there art conquers nature. Of the professions medicine is both an Italy and an England. It pre-eminently deals with nature in first assisting her best endeavours, and, second, in turning her worst malformations into harmonious beauty.

In regard to prospective medicine, permit an illustration. In the time of Linnæus there occurred in the shipyards of Sweden a rot in the timber. The King sent for the celebrated naturalist, who discovered an insect in the wood which laid its eggs in April. Linnæus directed that the logs should be submerged from March till May. This was done, and the rot disappeared. That prevention was better than cure in this case is a tolerable certainty.

During an epidemic of cholera the inhabitants of Edinburgh petitioned Lord Palmerston to proclaim a day of fasting that the plague might be stayed. His reply was characteristic of modern discovery—"Clean out your drains." That the medicine of the future is to be largely preventive is the present prevailing opinion. Whether the human lungs will ever be subjected to the influence of carbolic or other disinfecting sub-

stance which will destroy the bacillus of tubercle is an important problem, or whether sanitation can be made so perfect that no trace of the exanthematous poison will linger in the sewers, awaits solution alike by sanitarians and public corporations. In both of these departments we are only on the borderland of investigation. What the public at present want is a cure for their ills. What medical men most desire at the present moment is to discover the cause, so that they may be able on scientific grounds to institute the means of preventing disease. Much land remains to be occupied. The very ablest investigators are at work in the research department, and if we may judge from the past, the future is not likely to be barren in results. If during the next twenty years as good results are obtained in preventive medicine and sanitation as have been achieved during the past twenty in anæsthetics and antiseptics and abdominal surgery, the present generation of medical men will not have lived in vain.

In making a forecast of the medicine of the future a variety of circumstances present themselves—some favourable and others unfavourable to the medical man's prospects. Broadly veiwed on the surface the present outlook is bad enough. What with hydropathy, homœopathy, faith cures, quackery, and quack remedies, it might be thought that our occupation is gone. Every newspaper one takes up is nearly filled with the most emphatic statements, put in the clearest and cleverest form, of cures effected by the use of only a few bottles of the particular specific, after years of suffering under a multitude of doctors and months of residence in various hospitals. Advertising has been reduced to a science, and the cleverest quack reaps the largest fortune. It is a matter of money expenditure in the first instance. What the particular article recommended may be it matters not. The public like to be quacked. They do not object to pay for the operation. But, bad as we are in this country, things are much worse in America, where they have got a thousand infallible remedies for every disease. There is much quackery carried on in this country under the cloak of religion. I do not believe in trespassing on the functions of the minister of religion; I am equally jealous that he should not trespass on mine, and I often wish that clergymen would attend to their own profession and leave quackery alone. We are willing to grant first place in the professions to the minister of religion, although the profession of medicine, if not co-equal with, stands but little below that of divinity. The God-man was healer as well as preacher, and it falls to the lot of every one of us to daily preach sermons by our lives and actions, leaving words to others. Irish medical practice has at present to contend with the double difficulty of a diminishing population and an increasing profession. During the past seven years more than 4,000 members have been added to the Medical Register in these kingdoms.

The question of population is always one of primary importance to medical men. First, there is the ratio of marriages in relation to the population. This is said to be regulated largely by the character of the harvest. That being so, the present should be a favourable time, as not for many years has food been more abundant or cheaper than now. It is probable, however, that there are other factors to be taken into account. The present expensive style of living and the large wage rate of women may have increased the denominator, and reduced the matrimonial quotient; besides, early marriages are not so common as they were twenty years ago, and it is well known that when a man attains the age of thirty he hesitates before entering the married state. In the higher ranks of life the size of families is diminishing. In France and America small families are the rule. In Britain Malthusian doctrines and Malthusian practices may not be professedly popular, but it would seem as if they were being adopted. Ireland in this matter, as in many others, must be left to take her own way. She has a will of her own, and part of her creed is a large family of small children. Production may be normal in this country, but depletion goes on by the tide of emigration.

A subject of present importance to a Society like this is the membership of women. They are entering the ranks of the profession; they will soon knock at the door of our medical societies. The time is past for discussing the capacity and adaptability of women for medical studies. It is said that women are fascinated by gold and men by beauty. The latter assertion is admitted, but regarding the former I think there are other attractions than gain for women in the medical calling. Women make patient nurses; they will be quick observers and safe prescribers. For my part, I am in favour of leaving all fields open to those who are strong enough and brave enough to enter them. Meantime, we note that nearly all the colleges are opening their doors to women. The full effect of this change on the practice of the future it would at present be difficult to determine.

A striking circumstance of the present time is that *assertion* on medical matters has almost the weight of *proof* with a large portion of the community. Pasteur *asserts* that he can cure hydrophobia; immediately there is a rush of dog-bitten patients to Paris. Unfortunately for Pasteur's popularity, a number of the patients have died. We all know that cases of hydrophobia following dog-bite, or indeed from any cause, are exceedingly rare. It may be presumed that the majority of all who go to Paris for treatment have not been bitten by rabid animals, and that some of those who were so bitten have succumbed. In our own town recently a dog, said to have been rabid, bit a number of children, who were submitted to treatment somewhere in this country. What is most surprising to me in this case is the class of persons who contributed

to assist in carrying out this quack treatment. The delusion is only equalled by the case in which James Russell Lowell supposes the horse to be persuaded, by the use of green spectacles, that he is eating grass, instead of straw. I conceive it probable that cases of hydrophobia may be diminished, or the disease even stamped out in the future. My present remedy would be to diminish the number of useless and objectionable dogs, kept by persons who have no proper accommodation for them.

Regarding medicine in the coming time, my opinion is that the tendency will be toward simplicity in prescribing. Our trouble is that we have too many drugs. I could wish that half of them were eliminated from the British pharmacopœia. Where we have ten drugs possessing the same or similar action, two or three of the most reliable only might be retained, and this would leave room for some of the most useful of the new remedies which were submitted to us by my predecessor in this chair last year, when he gave us a demonstration of his most valuable treatise on "Materia Medica." Regarding the curative action of drugs I suppose we are all agreed. The study of disease and the adaptation of remedies is a science which is at once noble and humane. It is divine as well as human, and it is likely to exist as long as man remains in this world and subject to the infirmities which have been inflicted by sin. There are some who profess to despise the use of drugs. It is of such that Byron wrote—

> "Physicians mend or end us,
> *Secundum artem;* but although we sneer
> In health, when sick we call them to attend us,
> Without the least propensity to jeer."

Drugs are not the only, nor indeed the chief, weapons with which we at present combat disease. The cook is now held in nearly as high esteem as the dispenser. Ever since our countryman's epitaph was written, "He fed fevers," there has been a growing disposition to sustain nature while wrestling with disease. Strength, growth, and existence ever are conditions depending on food. Hence the food question is one which demands the best attention of medical men. Part of the Hippocratic oath was, "I will prescribe such a course of regimen as may be best suited to the condition of my patients according to the best of my power and judgment, seeking to preserve them from anything that might prove injurious."

The question of food is not more important from a medical point of view than that of drink, and it would seem that from a popular standpoint it is not nearly so important. For every eating-house there must be ten drinking saloons. In Belfast there are 900 houses licensed to sell drink. The best of all drink is water. Unfortunately, water pure and abundant is a blessing which is not always possessed by the people of this country. Belfast with only twelve days' supply of water in its

reservoirs is alarming enough. If alcohol is to be imbibed, it should be pure and matured. I am not going to open up the drink controversy here, although drink is the largest factor in the medical man's practice, but will content myself by denouncing strong drink as man's strongest enemy. By it more fortunes are wasted, more homes blighted, more lives ruined, than by any other agency. It is quite true that—

> "War has slain its thousands,
> And plague its thousands ten,
> But drink has slain its millions
> Of the very best of men!"

Of the medicinal value of alcohol this Society formerly expressed its opinion. Alcohol is a powerful weapon in combating many a severe illness, but there its use should end, and there our recommendation of it should cease.

The annual rent-charge in Ireland is £9,000,000. The drink bill is £15,000,000. There is an agitation for a reduction in the rent-roll which the Government promise to accomplish next year, when every Irishman will thenceforward rank freeholder of the soil he tills. What will be the Irishman's answer as to the reduction of the £15,000,000? If the Irishman would retain these millions in his purse it would change "pauper, peasant, and patriot" into loyal, prosperous, and peaceable citizens. Temperance in all things, with a sufficient supply of wholesome food, would in a generation or two change the physical, moral, and mental condition of society. The Sandwich Islanders believe that all the strength of their slain enemies enters into themselves. As a profession it is desirable that all the strength that lies in the enemies against whom we contend—bad food, impure water, alcoholic abuse, insufficient and unsuitable clothing, vitiated air, imperfect drainage, and the consequent living organisms which make havoc among the people—shall be used by us as a reserve force in making still greater progress in the field of medical science. Napoleon fought sixty battles; each victory was a new weapon. "Conquest has made me—conquest must maintain me," said the great General, and such should be our motto in the battle with disease—each victory a new weapon, every success adding the strength of a slain enemy. Our contest is not like that of Hercules, who conquered "whether he sat, or stood, or walked, or whatever he did." It is a contest rather after the manner of Harvey, and Hunter, and Jenner—men who wrote their names in the book of discovery, by steady, and silent, and deep communings with nature, in the fields of observation and experiment.

We live in a most remarkable age. At no time in the world's history has half a century witnessed so many changes of a character beneficial to man; adding to his comfort and convenience in railway travelling, ocean sailing, gas, and electric lighting, in telegraphic and telephonic

communication. Yet it has left our houses unaltered in construction—the main element of danger being still retained on the first landing. There is a tendency towards improvement in matters of ventilation and sewerage, and I think it is unlikely that in this country we shall again experience epidemics of the magnitude of the past. All the severer forms of plague, pestilence, and fevers, with all contagious diseases, are within measurable distance of being stamped out. The ills which the medical man of the future will have to contend with will be of a more refined and subtle character—diseases of the digestive and nervous systems, induced by the greater strain required to carry on the business of the world, in an age of keen competition, much disappointment, and immense tear and wear of brain substance. I am confident that the members of this old historic Society of ours will keep abreast of the times, and in the future as in the past work to leave both the world and the profession better than they found them; so that while in the world political and commercial the word passes, "Demos is king," it may be said in the world scientific and professional "Medicus is king."

On the motion of Professor Dill, seconded by Dr. Dempsey, J.P., a cordial vote of thanks was passed to Dr. Whitla, ex-President, for the ability and success with which he presided during his year of office.

Dr. J. W. Browne proposed, and Dr. M'Connell seconded, that the cordial thanks of the members present be tendered to the President for his Address.

This was carried by acclamation.

THE TREATMENT OF BURNS.

Altschul (*Monatsch. f. prakt. Dermat.*) reviews the treatment of burns, and gives the results of his own experience. Iodoform he regards as the application *par excellence* for burns of the second and third degrees; he prefers an iodoform gelatin of the strength of ten per cent., or, better still, an iodoform paste, of which the following is the formula:—℞. White wax, ʒ ss.; olive oil, ʒ i.; solution of subacetate of lead, ʒ iv.; iodoform, ʒ ij. to iv.—*American Med. Digest.*

SPONTANEOUS CURE OF CIRSOID ANEURYSM.

Dr. H. V. Ferrel, of Carterville, Ill., reports a case of spontaneous cure of cirsoid aneurysm. "The patient, aged twenty, had a large pulsating tumour above the right clavicle for a long time," which was diagnosticated as an aneurysm. He now suffered from "an attack of measles," during which "the tumour had a very red, angry look, pulsated strongly, and seemed about to rupture." The patient recovered of the measles, and "thereafter the tumour began to decrease in size, the pulsation and thrill entirely ceased."—*St. Louis Courier of Medicine*, February, 1887.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.; F.K.Q.C.P.; F. R. Met. Soc.; Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, November 5, 1887.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Oct. 15.	Oct. 22.	Oct. 29.	Nov. 5.		Oct. 15.	Oct. 22.	Oct. 29.	Nov. 5.
Armagh -	10·3	31·0	10·3	20·7	Limerick -	31·0	20·2	22·9	27·0
Belfast -	22·8	20·2	25·3	27·2	Lisburn -	9·7	9·7	19·3	9·7
Cork -	12·3	21·4	14·9	23·4	Londonderry	19·6	23·2	10·7	25·0
Drogheda	42·3	38·1	38·1	29·6	Lurgan -	20·5	35·9	30·8	20·5
Dublin -	27·0	23·6	31·5	30·0	Newry -	17·6	10·5	14·0	0·0
Dundalk -	30·6	21·8	30·6	26·2	Sligo -	14·4	14·4	9·6	9·6
Galway -	16·8	13·4	20·2	10·1	Waterford -	46·3	11·6	18·5	39·4
Kilkenny	12·7	29·6	21·1	4·2	Wexford -	29·9	25·7	47·0	38·5

In the week ending Saturday, October 15, the mortality in twenty-eight large English towns, including London (in which the rate was 16·7), was equal to an average annual death-rate of 17·8 per 1,000 persons living. In Glasgow the rate was 23·4; and in Edinburgh it was 16·1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 24·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·7 per 1,000, the rates varying from 0·0 in Londonderry, Newry, Wexford, Dundalk, Sligo, Lisburn, and Armagh, to 16·9 in Drogheda—the 10 deaths from all causes registered in the last-named district comprise 1 from measles, 1 from simple continued fever, and 2 from diarrhœa. Among the 98 deaths from all causes registered

in Belfast are 3 from measles, 2 from scarlatina, 2 from typhus, 8 from whooping-cough, 1 from diphtheria, 1 from enteric fever, and 7 from diarrhœa. The 19 deaths in Cork comprise 1 from measles, 2 from enteric fever, and 1 from diarrhœa. Among the 20 deaths in Waterford are 2 from scarlatina, 1 from whooping-cough, 1 from enteric fever, and 2 from diarrhœa; and the 23 deaths in Limerick comprise 1 from scarlatina. The Registrar of Londonderry, No. 2 district, remarks, "there were three fresh cases of small-pox in my district during the past week."

In the Dublin Registration District the births registered during the week amounted to 149—82 boys and 67 girls—and the deaths to 185—86 males and 99 females.

The deaths represent an annual rate of mortality of 27·3 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000.

Forty-one deaths from zymotic diseases were registered, being 6 over the number for the preceding week, and 15 in excess of the average for the 41st week of the last ten years. They comprise 6 from measles, 11 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from diphtheria, 1 from ill-defined fever, 6 from enteric fever, 9 from diarrhœa, 3 from erysipelas, &c.

Seven of the 11 deaths from scarlatina occurred in No. 1 North City, West (Langrishe-place) District.

Twenty-one cases of scarlatina were admitted to hospital during the week, being 3 over the number of admissions for the preceding week; 14 scarlatina patients were discharged, 2 died, and 74 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

Six cases of enteric fever were admitted, being a decline of 4 as compared with the admissions for the preceding week; 9 patients were discharged, 1 died, and 36 remained under treatment on Saturday, being 4 under the number in hospital on Saturday, October 8.

Eight cases of measles and 2 of typhus were admitted, against 3 cases of each disease admitted in the preceding week; 13 cases of measles and 8 of typhus remained under treatment in hospital on Saturday.

Thirty-one deaths from diseases of the respiratory system were registered, being 1 over the average for the corresponding week of the last ten years, and 11 over the number for the week ended October 8. They comprise 21 from bronchitis, and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, October 22, the mortality in twenty-eight large English towns, including London (in which the rate was 19·4), was equal to an average annual death-rate of 19·8 per 1,000

persons living. In Glasgow the rate was 18·4; and in Edinburgh it was 20·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·7 per 1,000, the rates varying from 0·0 in Newry, Kilkenny, Wexford, Lisburn, and Armagh, to 8·5 in Drogheda—the 9 deaths from all causes registered in the last-named district comprise 1 from scarlatina and 1 from diarrhœa. Among the 87 deaths from all causes registered in Belfast are—4 from measles, 3 from scarlatina, 10 from whooping-cough, and 2 from diarrhœa. The 33 deaths in Cork comprise 1 from typhus, 2 from enteric fever, and 1 from diarrhœa. One of the 13 deaths registered in Londonderry was caused by small-pox. The 5 deaths in Waterford comprise 1 from typhus, and one of the 4 deaths in Galway resulted from "simple continued" fever.

In the Dublin Registration District the births registered during the week amounted to 185—113 boys and 72 girls—and the deaths to 163—88 males and 75 females.

The deaths represent an annual rate of mortality of 24·1 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 23·6 per 1,000.

Thirty-three deaths from zymotic diseases were registered, being 4 over the average for the corresponding week of the last ten years, but 8 under the number for the week ended October 15. They comprise 5 from measles, 8 from scarlet fever (scarlatina), 4 from whooping-cough, 6 from enteric fever, 6 from diarrhœa, &c.

Five of the deaths from scarlatina occurred in No. 1 North City, West (Langrishe-place) District; the total number shows a decline of 3 as compared with the number for the week ended October 15.

Twenty-two cases of scarlatina were admitted to hospital during the week, being 1 over the admissions for the preceding week; 22 scarlatina patients were discharged, 4 died, and 70 remained under treatment on Saturday, being 4 under the number in hospital on Saturday, October 15.

Twelve cases of enteric fever were admitted, against 6 for the preceding week; 6 patients were discharged, 1 died, and 41 remained under treatment on Saturday, being 5 over the number in hospital on Saturday, October 15.

No cases of typhus, and but 5 of measles, were admitted; 6 cases of the former and 15 of the latter disease remained under treatment in hospital on Saturday.

Thirty-two deaths from diseases of the respiratory system were registered, being 1 over the number for the preceding week, and also 1 over

the average for the forty-second week of the last ten years; they comprise 22 from bronchitis, 5 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, October 29, the mortality in twenty-eight large English towns, including London (in which the rate was 21·5), was equal to an average annual death-rate of 21·5 per 1,000 persons living. In Glasgow the rate was 24·3; and in Edinburgh it was 21·1.

The annual average death-rate represented by the deaths registered last week in the sixteen principal town districts of Ireland was 25·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·9 per 1,000, the rates varying from 0·0 in Londonderry, Galway, Sligo, and Armagh, to 8·5 in Kilkenny and Drogheda—the 5 deaths from all causes registered in Kilkenny comprising 2 from diarrhœa, and the 9 deaths in Drogheda comprising 1 from measles and 1 from diphtheria. Among the 109 deaths from all causes registered in Belfast are 2 from measles, 3 from scarlatina, 12 from whooping-cough, 2 from diphtheria, 3 from enteric fever, and 2 from diarrhœa. The 8 deaths in Waterford comprise 1 from simple-continued fever and 1 from enteric fever. One of the 7 deaths in Dundalk was caused by scarlatina, which disease also caused 1 of the 6 deaths in Lurgan.

In the Dublin Registration District the births registered during the week amounted to 158—75 boys and 83 girls—and the deaths to 217—102 males and 115 females.

The deaths represent an annual rate of mortality of 32·0 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 31·5 per 1·000.

Fifty deaths from zymotic diseases were registered, being 17 over the number for the preceding week, and 23 in excess of the average for the forty-third week of the last ten years; they comprise 9 from measles, 11 from scarlet fever (scarlatina), 4 from whooping-cough, 7 from enteric fever, 10 from diarrhœa, 1 from dysentery, 1 from erysipelas, &c.

Thirty-one cases of scarlatina were admitted to hospital, being 9 over the admissions for the preceding week, 14 scarlatina patients were discharged, 5 died, and 82 remained under treatment on Saturday, being 12 over the number in hospital at the close of the preceding week.

Fourteen cases of enteric fever were admitted, being 2 over the admissions for the preceding week; 6 patients were discharged, 2 died, and 47 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, October 22.

Only 1 case of typhus was admitted; 4 cases of the disease remained under treatment in hospital on Saturday.

A case of small-pox was admitted into Cork-street Fever Hospital.

Forty-five deaths from diseases of the respiratory system were registered, being 13 over the number for the preceding week and 10 over the average for the forty-third week of the last ten years; they comprise 26 from bronchitis, 6 from pneumonia or inflammation of the lungs, and 3 from croup.

In the week ending Saturday, November 5, the mortality in twenty-eight large English towns, including London (in which the rate was 21·5), was equal to an average annual death-rate of 21·4 per 1,000 persons living. In Glasgow the rate was 22·3; and in Edinburgh it was 16·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 26·7 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 4·6 per 1,000, the rates varying from 0·0 in Galway, Newry, Kilkenny, Sligo, Lisburn, Lurgan, and Armagh, to 16·2 in Waterford—the 17 deaths from all causes registered in the last-named district comprise 1 from scarlatina, 4 from typhus, 1 from whooping-cough, and 1 from enteric fever. Among the 117 deaths from all causes registered in Belfast are—2 from measles, 5 from scarlatina, 6 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 3 from diarrhœa. The 36 deaths in Cork comprise 1 each from scarlatina, enteric fever, and diarrhœa. The 14 deaths in Londonderry comprise 1 from small-pox; 2 of the 7 deaths in Drogheda resulted from measles; and 1 of the 6 deaths in Dundalk was caused by scarlatina.

In the Dublin Registration District the births registered during the week amounted to 228—122 boys and 106 girls—and the deaths to 210—104 males and 106 females.

The deaths represent an annual rate of mortality of 31·0 in every 1,000 of the estimated population; omitting the deaths of persons admitted into public institutions from localities outside the district, the rate was 30·0 per 1,000.

Forty-nine deaths from zymotic diseases were registered, being 22 over the average for the corresponding week of the last ten years, but 1 under the number for the week ended October 29; they comprise 6 from measles, 19 from scarlet fever (scarlatina), 2 from whooping-cough, 1 from diphtheria, 1 from ill-defined fever, 7 from enteric fever, 5 from diarrhœa, 2 from erysipelas, &c.

Fifteen of the 19 deaths from scarlatina occurred in the North City Districts.

Thirty-one cases of scarlatina were admitted to hospital during the

week, being equal to the admissions for the preceding week; 22 scarlatina patients were discharged, 5 died, and 86 remained under treatment on Saturday, being 4 over the number in hospital on Saturday, Oct. 29.

Six cases of enteric fever were admitted, being 8 under the admissions for the preceding week; 9 patients were discharged, 1 died, and 43 remained under treatment on Saturday, being 4 under the number in hospital on Saturday, October 29.

Seventeen cases of measles were admitted, compared with 8 admissions during the preceding week. The number of cases of the disease in hospital on Saturday was 25, 10 patients having been discharged during the week.

Two typhus patients were admitted and 1 was discharged during the week, leaving 5 as the number in hospital on Saturday.

Forty-four deaths from diseases of the respiratory system were registered, being 8 over the average for the corresponding week of the last ten years, but 1 under the number for the week ended Saturday, October 29; they comprise 30 from bronchitis, and 9 from pneumonia or inflammation of the lungs.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N. Long. 6° 15′ W., for the Month of October, 1887.

Mean Height of Barometer,	30·144 inches.
Maximal Height of Barometer (on 25th, at 9 a.m.)	30·681 „
Minimal Height of Barometer (on 30th, at 9 a.m.)	29·315 „
Mean Dry-bulb Temperature,	46·5°.
Mean Wet-bulb Temperature,	43·9°.
Mean Dew-point Temperature	41·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·260 inch.
Mean Humidity,	81·7 per cent.
Highest Temperature in Shade (on 27th),	59·7°.
Lowest Temperature in Shade (on 11th),	33·4°.
Lowest Temperature on Grass (Radiation) (on 26th),	25·7°.
Mean Amount of Cloud,	65·8 per cent.
Rainfall (on 11 days),	1·398 inches.
Greatest Daily Rainfall (on 31st),	·629 inch.
General Directions of Wind,	N., N.W., W., S.W.

Remarks.

This was for the most part and until the close a quiet, dull, cold month, with high atmospherical pressure and scanty rainfall. There was a broken period from the 7th to the 12th. On the morning of the latter day the first snow of the season fell. After the 25th again, the

weather fell into an unsettled showery state, and on the night of the 31st a deep depression, advancing from the south-westward, brought a violent southerly gale and much rain. A curious fact about the anti-cyclones of October, 1887, was the comparatively high rate of speed which they attained in passing eastwards across the United Kingdom and France.

In Dublin the mean temperature (47·3°) was—as in September—decidedly below the average (50·0°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 46·5°. In the twenty-two years ending with 1886, October was coldest in 1880 (M. T. = 45·4°) and in 1885 (M. T. = 45·5°), and warmest in 1876 (M. T. = 53·1°). In 1886, the M. T. was as high as 52·0°; in the year 1879 (the cold year) it was 49·7°.

The mean height of the barometer was 30·144 inches, or 0·297 inch above the average value for October—namely, 29·847 inches. The mercury marked 30·681 inches at 9 a.m. of the 25th, and fell to 29·315 inches at 9 a.m. of the 30th. The observed range of atmospherical pressure was, therefore, 1·366 inches—that is, a little less than an inch and four-tenths. The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 46·5°, or 6·6° below the value for September, and 13·2° below that for August, 1887; that calculated by Kaemtz's formula—viz., *min.* + (*max.* — *min.* × ·41) = *Mean Temp.*—from the means of the daily maxima and minima was also 46·5°, or 2·7° below the average mean temperature for October, calculated in the same way, in the twenty years, 1865–84, inclusive (49·2°). The arithmetical mean of the maximal and minimal readings was 47·3°, compared with a twenty years' average of 50·0°. On the 27th the thermometer in the screen rose to 59·7°—wind S.W.; on the 11th the temperature fell to 33·4°—wind N.N.W. The minimum on the grass was 25·7° on the 26th. The rainfall was 1·398 inches, distributed over 11 days; both rainfall and rainy days were perceptibly less than the values for the preceding month of September—viz., 1·513 inches on 16 days. The average rainfall for October in the twenty years, 1865–84, inclusive, was 3·025 inches, and the average number of rainy days was 17·2. The rainfall, therefore, was again much below the average, and the rainy days were greatly below it. In 1880 the rainfall in October was very large—7·358 inches on 15 days. In 1875, also, 7·049 inches fell on 26 days. On the other hand, in 1884, only ·834 inch was measured on but 14 days, and in 1868 only ·856 inch on 15 days.

Solar halos appeared on the 20th and 29th. A lunar corona was seen on the 30th. High winds were noted on 7 days, and attained the force of a gale on three occasions, the 26th, 30th, and 31st. The atmosphere was not once foggy in Dublin. Lightning was seen on the night of the 10th, when thunder-showers passed along the east coast over the sea from N.N.W. to S.S.E. Hail fell with heavy showers of rain on the

evening of the 9th, and snow on the morning of the 12th. Hail also fell on the 11th. Temperature did not reach 60° in the screen on any day, while it fell below 40° on 12 days.

Saturday, the 1st, was a fine mild, but rather cloudy day. It was followed by a succession of quiet cloudy days, during which the centre of an anticyclone lay over Ireland or off its western coasts, while a series of atmospherical depressions passed eastwards or south-eastwards across Scandinavia and Russia. On the night of Thursday, the 6th, a small and shallow depression was formed over the West of Scotland, whence it travelled towards S.S.E., reaching the Midland Counties of England by the evening of Saturday, the 8th, when it dispersed. This disturbance caused cold showers in Ireland and northerly winds.

The weather of the week ending Saturday, the 15th, was cold and unseasonable. Night frosts were frequent, more particularly at the inland stations, while showers of cold rain, sleet, hail and snow occurred in all districts, accompanied by thunder and lightning in many places. On Sunday, the 9th, the rainfall at Greystones, Co. Wicklow, reached the amount of ·74 of an inch, but in Dublin only ·122 of an inch fell. The wind was mainly N. during this period, and at times it blew hard on exposed parts of the coast. The showers on the 9th were connected with the advance of a deep depression from the Iberian Peninsula across France to the S.E. of England and the North Sea. On the early morning of the 12th a subsidiary disturbance moved southwards down the Irish Sea, causing strong N. winds, and falls of snow and sleet. On Saturday, the 15th, the weather improved, as an area of high barometer came in over Ireland from the Atlantic.

During the third week (16th–22nd inclusive) the weather in Ireland and the South of England was fair, dry and quiet; in Scotland and Norway it was less settled, with occasional strong W. winds. In the course of the week two well-defined anticyclones passed eastwards across the British Islands—the first in the period between Sunday and Wednesday, the second on Friday and Saturday. In both instances, sharp cold and local fogs occurred at night within the central area of the high pressure system. In Dublin the weather of this week was mild and equable, with clouded skies and light winds. The mean temperature rose to 48·3° from 40·8° in the week ending the 15th.

From the 23rd to the 29th inclusive very changeable weather prevailed—at times it was cold and quiet, at others it was rough, mild, and rainy. On Tuesday, the 25th, an area of high pressure, in which the barometer reached 30·70 inches, advanced over Ireland, in the centre of which country the cold became very severe—at 8 a.m. temperature was 25° at Parsonstown. Next day a mild S.W. air-current flowed over Ireland, as the anticyclone moved south-eastwards to England on its journey to France and Germany. At 8 a.m. of the 26th the thermo-

meter marked 47° at Parsonstown—a rise of 22°—but was down to 28° in London. It had been as low as 23° during the previous night at Loughborough, in Leicestershire. In the course of the day heavy rain set in over the S. and W. of Ireland, the downpour yielding 2·3 inches at Valentia Island, 1·15 inches at Parsonstown, but only ·330 inch in the city of Dublin. Frost prevailed on this and the two following days in France and Germany. On the evening of Saturday, the 29th, cirro-stratus overspread the sky in front of a deep depression, which subsequently travelled towards E.N.E. across the south of England, causing heavy gales in the English Channel, and a downpour of rain over the greater part of England.

The last two days were squally and showery, and at the close of the month a very deep cyclonic system was advancing from S.W., accompanied by torrents of rain and violent gales.

From January 1st up to and including October 31st rain fell in Dublin to the amount of only 12·366 inches on but 123 days—the average for the ten months based on twenty years' observations being 23·187 inches, and 160·8 rainy days. Thus, the rainfall was equal to only 53·3 per cent. of the average, while the rainy days were equal to 76·5 per cent. of the average.

At Greystones, Co. Wicklow, the rainfall in October amounted to 2·24 inches, distributed over only 9 days.

PERISCOPE.

PRURITUS ANI.

Dr. W. Mitchell Banks writes:—I have been rather struck with the frequency of pruritus among the better classes of society as compared with the hospital classes. Out of 4,000 cases occurring at St. Mark's Hospital in London, under the care of Mr. Allingham, only 180 were cases of pruritus. And we may be sure that a very large proportion of all the cases in London would be sure to find their way to a special hospital. I see plenty of cases of piles and fistula at the Liverpool Royal Infirmary, but I cannot get hold of a genuine good case of pruritus, whereas in private practice they are by no means uncommon. Cleanliness then can have nothing much to do with it in point of causation. Again, while probably showing a predilection for those who eat and drink too much, it assails people of very different appearance and habits. I cannot help thinking that it is in many essentially a gouty condition, and I found a course of Homburg do one patient great good—indeed it practically cured her, after everything else had failed. There is a method of treatment which I do not think is spoken of in books, but which I have tried

in two or three cases with great success. This consists in anæsthetising the patient, and then with the big bulb of a thermo-cautery, heated to a white heat, lightly running over the whole affected surface, so as to produce a superficial burn. This seems a rather severe remedy, but then the disease is sometimes a very dreadful one, and makes the lives of its victims almost intolerable. Now, the look of the cautery is much worse than the reality, and a bit of lint kept moist with a solution of carbonate of soda, soon takes the smarting away. I do not know if others have tried this plan, but it is an excellent one, and may be resorted to with tolerable confidence in aggravated cases. Deep cauterisation is not required, merely a superficial frizzling.—*Liverpool Med. Chir. Journal.*

FEVER: ITS CAUSE, MECHANISM, AND RATIONAL TREATMENT.

Professor Austin Flint, M.D., LL.D., of New York, delivered an able address on this subject before the second General Session of the Ninth International Congress, at Washington, on Tuesday, September 6, 1887. We extract from the *Medical News* of Saturday, September 10, 1887, the following propositions in which Professor Flint summarised his views:—

"1. Fevers, especially those belonging to the class of acute diseases, are self-limited in their duration, and are due each one to a special cause, a microörganism, the operation of which ceases after the lapse of a certain time. 2. We are as yet unable to destroy directly the morbific organisms which give rise to continued fevers; and we must be content, for the present, to moderate their action and to sustain the powers of resistance of patients. 3. The production of animal heat involves oxidation of parts of the organism or of articles of food, represented in the formation and discharge of nitrogenised excrementitious matters, carbonic acid and water. 4. As regards its relations to general nutrition and the production of animal heat, water formed in the body by a process of oxidation is to be counted as an excrementitious principle. 5. Fever, as observed in the so-called essential fevers, may be defined as a condition of excessive production of heat, involving defective nutrition or inanition, an excessive production and discharge of nitrogenised excrementitious matters and carbonic acid, with waste and degeneration of the tissues, and partial or complete suppression of the production and discharge of water. 6. Aside from the influence of complications and accidents, the ataxic symptoms in fevers, the intensity and persistence of which endanger life, are secondary to the fever and are usually proportionate to the elevation of temperature. These symptoms are ameliorated by measures of treatment directed to a reduction of the general temperature of the body. 7. The abstraction of heat by external cold, and the reduction of temperature by antipyretics administered internally, without affecting the special cause of the fever, improve the symptoms which are secondary to the pyrexia. 8. In health, during a period of inanition, the consumption

of the tissues in the production of animal heat, is in a measure saved by an increased production and excretion of water. 9. In fever, the effects of inanition, manifested by destruction and degeneration of tissues, are intensified by a deficient formation and excretion of water. 10. Alimentation in fever, the object of which is to retard and repair the destruction and degeneration of tissues and organs, is difficult mainly on account of derangements of the digestive organs; and this difficulty is to be met by the administration of articles of food easily digested, or of articles in which the processes of digestion have been begun or are partly accomplished. 11. In the introduction of the hydrocarbons, which are important factors in the production of animal heat, alcohol presents a form of hydrocarbon which is promptly oxidised, and in which absorption can take place without preparation by digestion. 12. Precisely in so far as it is oxidised in the body, alcohol furnishes matter which is consumed in the excessive production of heat in fever, and saves destruction and degeneration of tissue. 13. The introduction of matters consumed in the production of heat in fever, diminishes rather than increases the intensity of the pyrexia. 14. As the oxidation of alcohol necessarily involves the formation of water and limits the destruction of tissue, its action in fever tends to restore the normal processes of heat-production, in which the formation of water plays an important part. 15. The great objects in the treatment of fever itself are to limit and reduce the pyrexia by direct and indirect means; to limit and repair destruction and degeneration of tissues and organs by alimentation; to provide matters for consumption in the abnormal production of heat; and thus to place the system in the most favourable condition for recuperation after the disease shall have run its course."

TREATMENT OF SYNCOPE.

Persons in a state of syncope from heart troubles may, according to Brown-Séquard (*Bulletin de Thérapeutique*), frequently be restored to consciousness by simply reversing them—seizing them by the legs and standing them on their heads. A strong galvanic current, applied to the neighbourhood of the trachea, sometimes is successful where all else has failed. Intermittent pressure over the heart is also a means that sometimes succeeds. Finally, vigorous pinching, or pricking the skin in front of the trachea, is sometimes successfully resorted to.—*St. Louis Medical and Surgical Journal.*

ARMY MEDICAL DEPARTMENT.

The Director-General informs us that no Examination for Commissions in the Medical Staff of the Army will be held in February next.

INDEX

TO THE EIGHTY-FOURTH VOLUME.

Abortion—treatment of, Dr. J. W. Byers, 1—ætiology and treatment of, Dr. Alexander Dempsey on, 274.
Absorption through the skin, 510.
Academy of Medicine in Ireland, the Royal, 40, 147, 249, 318, 416, 513—transactions of the, *Rev*, 285.
Address by Dr. A. W. Foot, 441.
Address by Dr. Esler, 518.
Afebrile pneumonia, 173.
Alcoholic paralysis, 309.
Alkalies in acute rheumatism, 263.
Amputation of the ankle-joint, 410.
Anatomical bed pan, 439.
Anatomy and Physiology, Sub-section of, Royal Academy of Medicine, 323.
Anatomy—works on, *Rev.*, 27, 130, 228, 497—of the eye, 138.
Aneurysm, cirsoid, spontaneous cure of, 525.
Anthropoid apes, Dr. Brooks on, 324.
Antipyrin as an anodyne, 80.
Arbutin, 263.
Archer, Dr. Robert S., brachial monoplegia in enteric fever, 13—perforation of the intestines in enteric fever, 90.
Army Medical Department, 536.
Aromatic compounds, 511.
Aspirator needle, sudden death from introduction of an, 348.
Asthenopia and uterine disease, 144.
Atkins, Dr. Ringrose, report on nervous and mental diseases, 233, 304.
Australasian Medical Gazette, *Rev.*, 402.
Auvergne, mineral springs of, Dr. W. Thomson on, 265—Mr. Boyd on, 329.

Bacteriology, works on, *Rev.*, 23, 31.
Ball, Dr. C. B., laparo colotomy and lumbar colotomy, 81—the rectum and anus, *Rev.*, 390—tetanus an infectious disease, 457.
Barton, Mr. J. K., œsophagotomy to remove a foreign body, 42.
Beatty, Dr. Wallace. pityriasis rubra, 8, 331—perforation of the stomach, 158.
Bennett, Dr. E. H., malformation of the shoulder-joint, 249—phlegmasia alba dolens, 515.
Benson, Mr. A. H., report on ophthalmology, 32, 138—fibroma corneæ and melanotic tumour of the conjunctiva, 156.
Bentley, Mr. Robert, text-book of organic materia medica, *Rev.*, 395.
Bergeon's method of rectal inflation, Dr. Knight on, 329.
Bernard, Mr. Walter, ideal paralysis, 160.
Boletim geral de medicina e cirurgia, *Rev.*, 406.
Boyd, Mr. M. A., perforation of the stomach, 157 — mineral springs of Auvergne, 329.
Brachial monoplegia in enteric fever, Dr. Robert S. Archer, 13.
Brand, Dr. A. F., Lewis's pocket case-book, *Rev.*, 134.
Bristowe, Dr. John Syer, treatise on the theory and practice of medicine, *Rev.*, 374, 489, 496.
British Medical Association guide to Dublin, *Rev.*, 225.
British medical service, 217.
Brooks, Dr. H. St. John, dissection of the plantar arch from the dorsal aspect of the foot, 323—varieties in the mode of origin of the phrenic nerve, 323—anthropoid apes, 324.
Brunton, Dr. T. Lauder, text-book of pharmacology, *Rev.*, 17.
Burns, treatment of, 525.
Burroughs Wellcome, & Co., Messrs., new preparations, 440.
Byers, Dr. J. W., treatment of abortion, 1.

Cæsarean section performed by the patient, 146.
Calendula. 438.
Cameron, Sir Charles A., a visit to the claret country, 367.
Campaign in Egypt, our first, by Brigade-Surgeon Gore, 177.

Capillary transudation, Mr. Story on, 251.
Carbolic acid poisoning—of an infant, 264—Dr. Briggs' case of, 303.
Cardiac malformation, 350.
Carica papaya, 351.
Carlsbad, Dr. Kraus on, *Rev.*, 120.
Cataract, 37.
Cerebellum, contribution to the pathology of the, 437.
Cerebral lesions, localisation of, 349.
China medical missionary journal, *Rev.*, 406.
Chromophobia, 143.
Cirsoid aneurysm, spontaneous cure of, 525.
Claret country, a visit to the, Sir Charles Cameron on, 367.
Clarke, Dr. J. H., the prescriber, *Rev.*, 395.
Cocaïn, 35, 507—hydrobromate of, 248.
Colds, treatment of, 79.
Colotomy, Dr. C. B. Ball on, 81, 417—Dr. Thomson on, 416.
Conium, 264.
Consumption in Ireland, Dr. Grimshaw on, 325.
Cormack, Dr. C. E., mineral waters of Vichy, *Rev.*, 123.
Corrosive sublimate poisoning, 80.
Cosgrave, Dr. E. MacDowel, evil effects of imperfect sanitary laws, 281.
Croly, Mr. Henry Gray, malignant disease of the tonsil, 319.
Crookshank, Mr. Edgar M., manual of bacteriology, *Rev.*, 23—photography of bacteria, *Rev.*, 31.
Cunningham, Dr. D. J., the dissector's guide, *Rev.*, 499.
Cysticercus, 38.

Dempsey, Dr. Alexander, ætiology and treatment of abortion, 274.
Dengue, researches into the pathology of, 170.
Drumin, 509.
Dublin, guide to, *Rev.*, 225.

Edinburgh, transactions of the Medico-Chirurgical Society of, *Rev.*, 297.
Egypt, our first campaign in, by Brigade-Surgeon Gore, 177.
Electrolysis in stricture of the urethra, 413.
Elephantiasis induced by posture, Dr. Mapother on, 347.
Employment of unqualified assistants, 263.
Enteric fever, brachial monoplegia in, Dr. R. S. Archer, 13—perforation of intestines in, Dr. R. S. Archer, 90.
Enucleation of eye and replacement, 39.
Epilepsy, mental, 438.
Epispadias, case of, by Mr. Lentaigne, 515.
Esler, Dr. R., home treatment of consumption, 66—successful ovariotomy, 69—address to the Ulster Medical Society, 518.
Excision of the wrist-joint, discussion on, 321.
Exenteration, 36.
Exophthalmic goître, visual troubles in, 142.
Expectancy as an element in the exaggeration of railway injuries, by Dr. H. C. Tweedy, 202.
Eyes—of deaf mutes, 32—transplantation of enucleated, 33, 39.

Fearnley, Mr. William, elementary practical histology, *Rev.*, 231.
Fergus, Mr. Freeland, Meyer's diseases of the eye, *Rev.*, 398.
Fever, its cause, mechanism, and rational treatment, 535.
Finny, Dr. J. Magee, hourglass contraction of the stomach, 513.
Fleming, Dr. R. H., exhibition of specimens, 150.
Flint, Dr. Austin, on fever, 535.
Flint, Dr. Austin, treatise on the principles and practice of medicine, *Rev.*, 374, 489, 490.
Foot, Dr. A. W., opening address at Meath Hospital, 441.
Forshaw, Mr. Charles F., an anatomical bed pan, 439.
Fothergill, Dr. J. Milner, indigestion and biliousness, *Rev.*, 287—manual of dietetics, *Rev.*, 289—vaso-renal changes, *Rev.*, 302.
Foy, Mr. George M., idiosyncrasy, 197.
Franks, Mr. Kendal, exhibition of specimens, 318.
Frazer, Mr. William, double vaginal orifice, 56.

Glaucoma, 36.
Godwin, Brigade-Surgeon C. H. Y., Porter's surgeon's pocket book, *Rev.*, 133.
Goître, exophthalmic, visual troubles in, 142.
Gore, Brigade-Surgeon, our first campaign in Egypt, 177.
Gray, Mr. Henry, anatomy, *Rev.*, 27, 130, 228.
Grimshaw, Dr. T. W., distribution of phthisis and respiratory diseases in Ireland, 325.
Gubb, Mr. Alfred S., Griffith's materia medica and pharmacy, *Rev.*, 19.
Guide to Dublin, *Rev.*, 225.

Haddon, Mr. Alfred C., introduction to the study of embryology, *Rev.*, 396.

Half-yearly reports—ophthalmology, by Mr. A. H. Benson, 32, 138—nervous and mental diseases, by Dr. Ringrose Atkins, 233, 304—surgery, by Dr. W. Thomson, 409—materia medica and therapeutics. by Dr. W. G. Smith, 506.
Hamilton, Mr. Edward, exhibition of specimens, 318.
Harman, Surgeon-Major, latent typhoid fever, 54.
Harris, Dr. Thomas, post mortem handbook, *Rev.*, 505.
Hayes, Dr. P. J., exhibition of specimens, 318.
Hayes, Dr. (Tralee), vesicular degeneration of the chorion, 58.
Healing art, the, *Rev.*, 127.
Health-resorts, recent works on, *Rev.*, 120.
Heanley, K. M., manual of urine testing, *Rev.*, 400.
Heart-beat, causation of, 78.
Heart of sea turtle, 77.
Heitzmann, Dr. Carl, anatomy, *Rev.*, 497.
Hemianopsia, 38.
Henry, Dr. Frederick P., anæmia, *Rev.*, 296.
Hernia, obturator, 350.
Heuston, Dr. F. T., fracture of the skull, 255.
Hime, Dr. Maurice C., home education, *Rev.*, 407.
Holiday at Mont Dore, Dr. William Thomson on a, 265.
Hood, Dr. Donald W. Charles, diseases and their commencement, *Rev.*, 26.
Hospital—Meath, Dr. Foot's address at, 441—Rotunda Lying-in, Mr. Lane's report of, 472.
Hospital Reports, St. Thomas's, *Rev.*, 25.
Hourglass contraction of the stomach, Dr. Finny on, 513.
Hydrocele, the radical cure of, Mr. M'Ardle on, 190.
Hyoscin, 509—hydrobromate, in insanity, 313.
Hyoscyamin in insanity, 313.

Idiosyncrasy, Mr. George M. Foy on, 197.
Imperfect sanitary laws, Dr. E. M. Cosgrave on, 281.
Insanity in general, 233—use of sedatives in, 312.
Intestines, perforation of the, in enteric fever, Dr. C. B. Ball on, 90.
Iodol, 511.
Ireland, Royal Academy of Medicine in, 40, 147, 249, 318, 416, 513—transactions of the, *Rev.*, 285.
Ireland, Royal College of Surgeons in, Sir William Stokes on, 353.

James, Dr. Frank L., elementary microscopical technology, *Rev.*, 231.
Jones, Dr. H. Macnaughton, practitioner's handbook of diseases of the ear and naso-pharynx, *Rev.*, 134.

Keyt, Dr. Alonzo T., sphygmography and cardiography, *Rev.*, 218.
Kidney, new method of exposing the, 414.
Kirkpatrick, Dr. J. R., abscess of the uterus opening through the umbilicus, 152.
Knapp, Dr. Philip Coombs, translation of Strümpell's text book of medicine, *Rev.*, 374.
Knight, Dr. C. F., prevention and treatment of disease, 52—rectal inflation, 329.
Kraepelin, Dr. Emil, the action of urethan, 317.
Kraus, Dr. J., Carlsbad, *Rev.*, 120.

Lane, Mr. John L., report of the Rotunda Hospital, 422, 472.
Laparo-colotomy and lumbar colotomy, Dr. C. B. Ball on, 81, 417—Dr. Thomson on, 416.
Lanolin, 510.
Laws, imperfect sanitary, Dr. E. MacDowel Cosgrave on, 281.
Lead-poisoning, the clinical pathology of, 162.
Lentaigne, Mr., case of epispadias, 515.
Lindsay, Dr. James Alexander, climatic treatment of consumption, *Rev.*, 113.
Lumbar colotomy, Dr. C. B. Ball on, 81, 417—Dr. Thomson on, 416.

Macan, Mr., exhibition of specimens, 56, 147, 150, 422.
M'Ardle, Mr., resection of the pylorus, 40—sarcoma, 62—the radical cure of hydrocele, 190.
MacKenzie, Sir Morell, hay fever and paroxysmal sneezing, *Rev.*, 227.
Madden, Dr. More, exhibition of specimens, 147—reparative treatment of vesico-vaginal and vesico-uterine fistula, 148.
Malignant disease of the tonsil, Mr. H. G. Croly on, 319.
Mapother, Dr., elephantiasis induced by posture, 347.
Marshall, Dr. A. Milnes, practical zoology, *Rev.*, 21.
Mason, Dr., exhibition of morbid specimens, 56.
Mastoid and tympanic discase, trephining in, Mr. J. Dallas Pratt on, 467.
Materia medica—works on, *Rev.*, 16, 395—report on, by Dr. Walter Smith, 506.
Meath Hospital, Dr. Foot's address at the, 441.
Medical Department, Army, 536.

Medical Section of the Royal Academy of Medicine in Ireland, 48, 160, 329.
Medical Society, Ulster, transactions of the, 65, 518.
Medicine, recent works on practice of, *Rev.*, 374, 489.
Medicine, Royal Academy of, in Ireland, 40, 147, 249, 318, 416, 513—transactions of the, *Rev.*, 285.
Mental diseases, report on, by Dr. Ringrose Atkins, 233, 304—epilepsy, 438.
Meteorological notes, 75, 168, 261, 344, 434, 531.
Metric table. 172.
Meyer, Dr. Edouard, practical treatise on diseases of the eye, *Rev.*, 398.
Molony, Mr. John, notes on cases of insanity, 51.
Monoplegia, brachial, in enteric fever, Dr. R. S. Archer, 13.
Mont Dore, Dr. William Thomson on, 265—Mr. M. A. Boyd on, 330.
Moore, Dr. J. W., sanitary and meteorological notes, 70, 163, 256, 334, 429, 526—calculous pyelitis, with albuminoid disease, 162.
Mouillot, Dr., outbreak of diphtheria, 48—two cases of purpura, 48.
Moxon, Dr. Walter, pilocereus senilis, *Rev.*, 129.
Murder at the Rue Montaigne, Paris, 171.
Myopia, treatment of, 34—prevention of, 145.

Nauwerck, Dr. C., Beiträge zur pathologischen Anatomie und Physiologie, *Rev.*, 291.
Nervous diseases, report on, by Dr. Ringrose Atkins, 233, 304.
Neuritis — peripheral, 304 — psychical symptoms in multiple, 309—puerperal, 310.
Neuro-anatomy and physiology, 239.
Neuro-pathology and pathological anatomy, 304.
Neuro-therapeutics, 312.
New preparations, 440.
Nixon, Mr. F. A., exhibition of specimens, 318.

Obstetrical Section of the Royal Academy of Medicine in Ireland, 56, 147, 421.
Obturator hernia, 350.
Oertel, Professor M. J., therapeutics of circulatory derangements, *Rev.*, 500.
Ophthalmology, report on, by Mr. A. H. Benson, 32, 138.
Ostium vaginæ, congenital absence of, 415
Ovariotomy, successful case of, by Dr. Robert Esler, 69.

Packing house wounds, 264.
Paralysis, alcoholic, psychical symptoms in, 309.
Paris, murder at the Rue de Montaigne, 171.
Patellar tendon, rupture of, on both sides, 170.
Pathological Section of the Royal Academy of Medicine in Ireland, 60, 155, 249, 513.
Perforation—of the stomach, 157—of the intestines in enteric fever, Dr. C. B. Ball, 90.
Periscope, 77, 170, 263, 347, 437, 534.
Pharmacy, works on, *Rev.*, 16, 395.
Phlegmasia alba dolens, Dr. E. H. Bennett on, 515.
Phrenic nerve, Dr. Brooks on the, 323.
Phthisis, distribution of, in Ireland, Dr. Grimshaw on the, 325.
Physiology, Sub-section of Anatomy and, Royal Academy of Medicine, 323.
Pickering Pick, Mr. Gray's anatomy, *Rev.*, 27, 130, 228.
Pilocarpin, synthesis of, 506.
Pityriasis rubra, Dr. Wallace Beatty, 8, 331.
Pneumonia, afebrile, 173.
Poisoning—by corrosive sublimate, 80—carbolic acid, 264, 303.
Polyclinic, the, *Rev.*, 406.
Porter, Dr. Alexander, death from starvation, 106.
Porter, Surgeon-Major J. H., surgeon's pocket book, *Rev.*, 133.
Practice of medicine, recent works on, *Rev.*, 374, 489.
Pratt, Mr. J. Dallas, trephining in mastoid and tympanic disease, 467.
Prostate, treatment of enlarged, 410.
Pruritus ani, 534.
Pseudo-hypertrophic muscular paralysis, pathology of, 311.
Purefoy, Dr., dystocia caused by hydrocephalus and pelvic tumour, 57.

Rabies, an experimental research upon, 174.
Railway injuries, expectancy in the exaggeration of, Dr. H. C. Tweedy on, 202.
Rectal inflation, Dr. Knight on, 329.
Remington, Dr. Joseph P., practice of pharmacy, *Rev.*, 16.
Report of the Rotunda Lying-in Hospital, by Mr. Lane, 422, 472.
Reports—on ophthalmology, 32, 138—on nervous and mental diseases, 233, 304—on surgery, 409—on materia medica and therapeutics, 506.
Respiratory diseases in Ireland, Dr. Grimshaw on, 325.

Revista Pharmaceutica do Instituto Pharmaceutico do Rio de Janeiro, *Rev.*, 406.
Revue Internationale de l'Enseignement, *Rev.*, 405.
Rheumatism, acute, salicylates and alkalies in, 263.
Richardson, Dr. Benjamin Ward, the commonwealth, *Rev.*, 401.
Roberts, Dr. Frederick T., officinal materia medica, *Rev.*, 132.
Robinson, Mr. C. H., chronic interstitial nephritis, 160.
Roth, Dr. Mathias, physiological effects of artificial sleep, *Rev*, 300.
Rotunda Hospital, report of the, by Mr. J. Lilly Lane, 422, 472.
Routh, Dr. C. H. D., overwork and premature mental decay, *Rev.* 24.
Royal Academy of Medicine in Ireland, 40, 147, 249, 318, 416.
Royal College of Surgeons in Ireland, Sir William Stokes on the, 353.

Sabbatsberg Hospital, Dr. Warfvinge's report of the, *Rev.*, 226.
Saccharin, 511—tabloids, 440.
Salicylates in acute rhematism, 263.
Salol, 428.
Sanitary and meteorological notes, 70, 163, 256, 334, 429.
Sanitary laws, Dr. E. MacDowel Cosgrave on imperfect, 281, 525.
Santonin, dangers of, 373.
Scientific inventions, 439.
Scott, Mr. J. Alfred, fatty substitution of the erector spinæ in the pig, 157.
Scott, Mr. J. H., secondary suture of ulnar and median nerves, 44.
Sea turtle, innervation of heart of, 77.
Sedatives in insanity, 312.
Seguin, Dr. E. C., localised cerebral lesions, 349.
Shattuck, Dr. Frederick C., Strümpell's text book of medicine, *Rev.*, 374.
Shoulder-joint, malformation of the, Dr. E. H. Bennett's case of, 249.
Sleep, curative potency of prolonged, 175.
Smith, Dr. J. Greig, abdominal surgery, *Rev.*, 136.
Smith, Mr. Alfred, exhibitions of specimens, 147, 150, 421.
Smith, Dr. Walter G., specimens of malignant disease, 60—report on materia medica and therapeutics, 506.
Smyly, Dr. W. J., perforation of the stomach, 157.
Society, Ulster Medical, transactions of the, 65, 518.
Spitalul, *Rev.*, 405.
Starvation, death from, Dr. A. Porter, 106.
State Medicine, Sub-section of, in the Royal Academy of Medicine in Ireland, 325.
Stoker, Dr. W. Thornley, excision of the knee-joint, 45.
Stokes, Sir William, exhibition of specimens, 318—work done in surgery at the Royal College of Surgeons in Ireland, 353.
Stomach, hour-glass contraction of the, Dr. Finny on, 513.
Story, Mr. J. B., capillary transudation, 251.
Strabismus, 34.
Strophanthus, price of, 440.
Strümpell, Dr. Adolf, text book of medicine, *Rev.*, 374.
St. Thomas's Hospital reports, vols. xiv. and xv., *Rev.*, 25.
Stuart, Mr. Thomas, guide to Dublin, *Rev.*, 225.
Suckling, Dr. C. W., diagnosis of diseases of the brain, *Rev.*, 136.
Surgery—work done in, Sir William Stokes on, 353—report on, by Dr. William Thomson, 409.
Surgical Section of the Royal Academy of Medicine in Ireland, 40, 318, 416.
Swanzy, Mr., fibro-sarcoma of the orbit, 61.
Syncope, treatment of, 536.

Temperature sense, 512.
Tetanus—in a boy aged twelve, 352—an infectious disease, Dr. C. B. Ball on, 457—in Dublin hospitals, 465.
Therapeutics—works on, *Rev.*, 16, 395—report on, by Dr. Walter Smith, 506.
Thomson, Dr. William, a holiday at Mont Dore, 265—report on surgery, 409.
Tirard, Dr. Nestor, edition of Thomson's conspectus, *Rev.*, 395.
Tonsil, malignant disease of the, Mr. H. G. Croly on, 319.
Topographical diagnosis of local disease in cerebral cortex, 175.
Tracheotomy, preliminary, as an aid to other operations, 409.
Transactions — of the Ulster Medical Society, 65, 518—Royal Academy of Medicine in Ireland, *Rev.*, 285—Medico-Chirurgical Society of Edinburgh, *Rev.*, 297—South Indian Branch of the British Medical Association, *Rev.*, 404—Pathological Society of Philadelphia, *Rev.*, 406.
Trephining in mastoid and tympanic disease, Mr. J. Dallas Pratt on, 467.
Tweedy, Dr. H. C., expectancy in railway injuries, 202.

Ulster Medical Society, transactions of the, 65, 518.

Unqualified assistants, 263.
Urethan, the action of, Dr. Emil Kraepelin, 317.
Urethra, electrolysis in stricture of the, 413.
Uterine disease and asthenopia and other affections of the eye, 145.

Vaccinia, accidental, resulting in death, 352.
Vaginæ, ostium, congenital absence of, 415.
Vaginal injection of carbolised water poisonous, 303.
Vichy, Dr. C. E. Cormack on, *Rev.*, 123.
Vickery, Dr. Herman F., translation of Strümpell's text book of medicine, *Rev.*, 374.
Vital statistics, 70, 163, 256, 334, 429, 526.

Wales, Dr., treatment of phthisis, 65.
Waking numbness, 64.
Warfvinge, Dr. F. W., report of Sabbatsberg Hospital, *Rev.*, 226.
Welch, Dr. William H., Flint's practice of medicine, *Rev.*, 374, 489, 490.
Wheeler, Mr. W. I., trephining for epilepsy, 63—exhibition of specimens, 318—excision of the wrist-joint, 321.
White, Dr. J. C., dermatitis venenata, *Rev.*, 400.
Wood, Dr. H. C., nervous diseases and their diagnosis, *Rev.*, 300.
Work done in surgery by its professors at the Royal College of Surgeons in Ireland, Sir William Stokes on the, 353.
Works on—materia medica, pharmacy, and therapeutics, *Rev.*, 16, 395—anatomy, *Rev.*, 27, 130, 228, 497—bacteriology, *Rev.*, 23, 31—health resorts, *Rev.*, 120—diet and digestion, *Rev.*, 287—practice of medicine, *Rev.*, 374, 489.
Wounds, packing house, 264.

Year-book of the scientific and learned societies of Great Britain and Ireland, *Rev.*, 301.

Ziegler, Dr. Ernst, Beiträge zur pathologischen Anatomie und Physiologie, *Rev.*, 291.
Ziemssen, von, handbook of general therapeutics, Vol. VII., *Rev.* 500.

WELLCOME INSTITUTE LIBRARY

Printed by JOHN FALCONER, 53 Upper Sackville-street, Dublin.